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Original Articles.

THE BACTERIA CONCERNED IN THE PRODUCTION OF EYE INFLAMMATIONS.*

ROBERT L. RANDOLPH, M.D.
BALTIMORE.

I do not think we are called on to discuss the so-called eye bacteria from a historical point of view, for that would mean a consideration of nearly all these bacteria in their causal relationship to the diseases with which they were first identified. As a matter of fact, we have not found any bacteria which are pathogenic only for the eye, though the possibility of there being such bacteria is suggested when we think of sympathetic ophthalmia and trachoma, two diseases which appear to be peculiar to the human race, and one of which, in all probability, is due to a specific bacterium.

Before speaking of the bacteria which we usually regard as pathogenic for the human eye, I may be pardoned for introducing matter which to many of you may seem very elementary, but which may help to a better understanding of what follows. Bacteria may be divided into two classes, the saprophytes, or those which obtain their nutrition from dead organic material, and the parasites, or those which live at the expense of some other living organic creature. The activities of the saprophytes lead to decomposition, putrefaction and fermentation, while the activities of the parasites result in disease and death. The saprophytes resolve dead animal and vegetable bodies into simpler compounds, carbonic acid, water and ammonia, which serve as food for vegetation, and for this reason this group of bacteria may be regarded as benefactors, while the parasites exist at the expense of some living organic creature, or to put it stronger, at the expense of sight and life. It is to the second class, the parasites, that the group of eye bacteria belongs. In this group we will find two of the grand divisions of bacteria in general micrococci or cocci and bacilli, these names being given them according to their individual outline, the cocci being round or sphere-shaped, the bacilli being rod-shaped. The third grand division of bacteria, the spirilla, finds no representatives in the group of so-called eye bacteria.

In the group of micrococci we find the *Streptococcus pyogenes,* the *Staphylococcus aureus* and *albus,* the pneumococcus and gonococcus. In the group bacilli, we have Weeks' bacillus, the diplobacillus of Morax-Axenfeld, the diptheria bacillus, xerosis bacillus, tubercle bacillus, *Bacillus pyocyaneus* and colon bacillus. Several of these bacteria are often found in the normal conjunctival sac, and the *Micrococcus epidermidis albus* may be regarded as an almost constant inhabitant of this location, and to a somewhat less extent this is the case with the xerosis bacillus. These two bacteria, then, can not be regarded as actually pathogenic for the human conjunctiva, but I have included them in the group of eye bacteria because they are so closely associated with the life history of the eye, and as I have observed elsewhere, both these organisms under certain conditions can become pathogenic and cause inflammation. Very recently I have had occasion to make repeated cultures from the conjunctival sac of an individual with intense monocular conjunctivitis, which, clinically speaking, was indistinguishable from "pink eye," and I was never able to get anything in either culture or cover-slip but the xerosis bacillus. What rendered this micro-organism pathogenic in this particular case I am unable to say. More than once I have been forced to the conclusion that the *Micrococcus epidermidis albus,* which I have found so often in the normal conjunctival sac, was apparently the cause of an intense conjunctivitis which I was treating. The colon bacillus is another organism which is not generally considered pathogenic, but there is sufficient evidence to warrant the belief that it does become very pathogenic under certain circumstances, so that its presence in diseased conditions while possibly accidental, not infrequently means its direct causal relationship to the disease. A number of cases of catarrhal conjunctivitis have been reported where the colon bacillus was found in the conjunctiva in pure culture, and several years ago I reported a case of panophthalmitis in which I obtained this organism from the vitreous in pure culture. These three organisms, then, are the least pathogenic of the group. When we pass to the other members of this family or group the element of pathogenicity comes out stronger, being most marked in the diphtheria bacillus, then in the gonococcus, Weeks' bacillus, pneumococcus, diplobacillus of Morax-Axenfeld, tubercle bacillus, streptococcus and *Staphylococcus aureus.* The latter organism, as it is found so frequently associated with a normal condition of the conjunctiva and lids, may almost be classed with the three organisms which I have indicated as being relatively less pathogenic. The streptococcus is another organism which is most inconstant in its effects. At times it will seem to have little, if any, virulence, no matter how tested, while again, it exhibits very marked pathogenic properties. When found as the active factor in an ophthalmia we usually have a very intense reaction, as seen in the streptococcus diphtheria of the conjunctiva, also in Parinaud's conjunctivitis. Of course, my grading these bacteria as regards their pathogenic value is an

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entirely arbitrary arrangement, but judging from the effects produced by their toxins, the arrangement seems to me a reasonable one. All these organisms, however, irrespective of their pathogenicity, require to some extent a helping hand to render them capable of doing harm. While it is impossible to demonstrate always the exact nature of this co-operative agency, it is almost certain in a great number of cases that it consists in an abrasion or injury of the epithelium. Whatever lowers local resistance favors the multiplication of any bacteria which might happen to be in the conjunctival sac, and in overwhelming numbers ordinarily harmless bacteria can become dangerous. The more pathogenic an organism the greater would be the odds against the eye in case of mechanical injury, and I am convinced that the freedom of the eye from suppuration after penetrating wounds from accidents as well as from operations, while due in larger measure to the natural resistance of the eye to the disease, is also to no little extent due to the feeble pathogenic properties of those bacteria which are so often found in the conjunctival sac. No matter how pathogenic the bacteria if they fail to multiply it means that the battle is not to them. The sooner we realize, in dealing with the normal conjunctiva, that the latter is adequately equipped for adversity, the better will be the results of our operative work, and I look forward to no distant day when antiseptic irrigations of the normal conjunctiva in cataract operations will have been generally abandoned, and I am sure that during the past few years there has been a steady growth in the realization of the principle, clean hands, clean instruments, clean cocain, and leave the rest to the tissues of the eye. These rather practical thoughts suggest themselves to me in speaking of the bacteria which are found in the normal conjunctiva. Sometimes I am almost tempted to think that the bacteria which are so often found in this location perform certain important functions in the life of the normal conjunctiva, and that it is not intended we should disturb this relationship. We know that efforts to bring about intestinal and vaginal antisepsis have been followed by worse than failure, and that in the case of one enterprising obstetrician a large crop of puerperal fevers resulted. It is the same story here, bacteria ordinarily harmless are rendered harmful because our mental attitude toward bacteria in general is hostile, but I am convinced that with increasing knowledge we will be compelled to take up another position, even perhaps to regard some of the bacteria which are found in our bodies as benefactors, as blessings in disguise.

BACTERIA IN THE EYE,

AND NOTES ON SOME RECENT WORK IN OPHTHALMOLOGIC BACTERIOLOGY.*

BROWN PUSEY, M.D.

Instructor in Pathology of the Eye in the University of Chicago; Assistant in Ophthalmology in Rush Medical College.

CHICAGO.

Such an appropriate opening of a subject as that which is forced on me is seldom given to a man. The natural manner in which to consider my subject is to begin with the bacteria that may infect the human conjunctiva, and of these the bacillus of acute, contagious conjunctivitis must first have attention. In the writings of a celebrated German ophthalmologist we find the sentence: "For the principal work in the investigation of this microörganism and the real demonstration of it as the cause of a particular form of conjunctivitis, we are indebted to him who in 1886 described the first cases, in which he was able to prove this microörganism to be the cause of this disease." I have the pleasure of showing a specimen containing the organisms spoken of in the above sentence, which bear the name of the investigator referred to—Weeks, the chairman of our Section. My quotation is from the writings of a gentleman who was to have been the guest of this Section—Professor Uhthoff.[1]

The specimen is a smear from a conjunctival discharge. This statement reminds me of the fact that in studying bacteria in the conjunctival tissue we are greatly handicapped, because many of the organisms that cause conjunctivitis in man do not lend themselves to experimentation in the conjunctivæ of animals. Such is the case with the bacillus of Weeks, the Morax-Axenfeld diplobacillus, the diphtheria bacillus and the gonococcus. It is a curious and interesting fact that the last-named organism has never been found as a parasite in other animals. These organisms will not grow in the conjunctiva of animals, and, as we can hardly excise human conjunctiva for the purpose of such a demonstration, I can not show them in tissue.

In passing, I may refer to the fact that Weeks[2] and Morax[3] have examined tissue containing the small bacillus, and of the severe forms of conjunctivitis Randolph[4] has obtained such tissue from rabbits by injecting diphtheria toxin.

Taking up the chronic forms of conjunctivitis, I am fortunate in the possession of a specimen of leprosy of the conjunctiva, stained to show the lepra bacilli.

Of the chronic forms of conjunctivitis, none is so important as trachoma, and it would be most appropriate if I could at this point show the microörganism of this disease. You will all join me in my regret that such a demonstration is still impossible.

Before leaving the subject of the conjunctiva, I wish to refer to the very important recent work of the chairman of our committee—Dr. Randolph.[4] He has investigated the rôle of the bacterial toxins in inflammations of the eye, and has demonstrated for the first time that, in general, these toxins are incapable of absorption from the intact conjunctival surface, hence such toxins instilled into the healthy conjunctival sac do not produce inflammation; but if they are injected into the conjunctiva or anterior chamber, they invariably set up local inflammation. His conclusions are most interesting, and his experiments, as he says, are in harmony with clinical experience, in that a lesion of continuity is shown to be important, not only in opening a path for invasion by bacteria, but in permitting the entrance of toxins, which constitute the weapons by which the bacterial cells do injury. In this important work Randolph records a study of the bacteriology of the normal conjunctiva of the rabbit, based on an examination of

* Read, with stereopticon illustration, at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Uhthoff, W.: Ueber die neuren Fortschritte der Bakteriologie auf dem Gebiete der Conjunctivitis und der Keratitis des Menschen Sammlung zwangloser Abhandlungen aus dem Gebiete der Augenheilkunde, ii, 5, p. 17, 1898.

2. Weeks, J. E.: The Bacillus of Acute Conjunctival Catarrh or "Pink-eye," Knapp's Arch., xv, p. 441, 1886.

3. Morax, V.: Recherches bacteriologiques sur l'etiologie der Conjunctivites aigues, etc., Thèse de Paris, 1894.

4. Randolph, R. L.: The Rôle of the Toxins in Inflammations of the Eye, Amer. Jour. Med. Sci., November, 1902; also, Bulletin Johns Hopkins Hosp., March-April, 1903.

forty-seven cases. The value of this latter will be appreciated when it is recalled that practically all the experimental work of the ophthalmologist is done on the rabbit's eye, and heretofore no work had been done on the bacteriology of the eye of this animal.

Passing from the conjunctiva to the eyelids, I would call attention to the work of Hala[5] in demonstrating microörganisms in chalazion. In this work he verifies the findings of Professor Deyl, and it is of such interest that I venture to quote from his conclusions:

"Chalazion is an infectious bacterial process. The bacilli in incipient chalazion are in all their characteristics identical with that group of bacteria which are designated as xerosis bacilli. The so-called xerosis bacilli which exist in the normal and particularly in the different pathologic conditions in the conjunctival sac, get into the conjunctival tissue by rubbing of the irritated eyes, and cause an acute inflammatory process, which terminates in a chronic swelling filled with granulation tissue. The different catarrhal conjunctival affections, and the asthenopias, are predisposing factors. Contrary to the view of Baumgarten concerning the absolute avirulence of the so-called *Bacillus xerosis,* we have the experimental production of the chalazion process in the eyelids of rabbits by these bacilli, which are derived not only from human chalazion, but also from other pathologic processes. The chalazion is not a retention cyst, and it presents no signs of and has no relation to tuberculosis."

The histologic findings in chalazion make one a little uncertain in accepting unhesitatingly the last statement. The findings of Hala increase our interest in the *Bacillus xerosis* and make the article of Denny,[6] on its morphology and the morphology of its kindred forms (*B. diphtheriæ* and *B. pseudodiphtheriæ*) of more importance to us.

While on the subject of the eyelids, I may call attention to a suggestive paper by Dr. P. Friedenberg.[7] Starting with the fact that the hair follicles, crypts and glands of the lid margin may, even in apparently healthy lids, retain sebaceous matter, fatty detritus and a varied flora of bacteria, he demonstrates the importance of expression of the lid margins as a therapeutic measure in blepharitis and its complications.

Further important, recent work is that of Römer,[8] Mayer[9] and Hiroto[10] on the subject of the conjunctival sac as a route of general infection. General infection, which has been produced in numerous animal experiments by the introduction of organisms, e. g., pneumococci, into the conjunctival sac, may well give rise to interesting speculation. Hiroto, agreeing with Römer, concludes that in cases of infection by this route, the bacteria enter the circulation not directly from the conjunctiva, but from the mucosa of the nose, to which they are carried by the tears.

Of the serious eye affections, corneal ulcer is in the first class. Of corneal ulcers none is worse than the serpent ulcer. It has been given to Professor Uhthoff[11] [12] and his colleague, Professor Axenfeld, to demonstrate that the serpent ulcer is due to infection with the pneumococcus. The great importance of this work will be appreciated when we think of the possibilities in the treatment of these awful ulcers with antipneumococcic serum.

The next slide shows pneumococci on the edge of the cornea; this section is from an eye enucleated because of an epithelioma, and evidently has been obtained in the beginning of the infection with the diplococcus. The next slide shows these organisms in an eye that went to pieces from a serpent ulcer, and the following section shows the tissue stained with hematoxylin-eosin, and some of the results of the action of the organisms. For the sections from the serpent ulcer, I wish to acknowledge my indebtedness to Dr. E. A. Shumway. We are familiar with the histologic findings in such an ulcer of the cornea, but I wish to emphasize the extension of these organisms in colonies between the corneal lamellæ and the character of the leucocytes in the anterior chamber — polymorphonuclear leucocytes. The next section, for which I am also indebted to Dr. Shumway, shows staphylococci in the cornea.

Hematoxylin usually is not a satisfactory stain for bacteria. This is due to the fact that in ordinary infected tissue there are many nuclei of fixed as well as mobile cells, that take this stain and interfere with the recognition of organisms. I would call attention to the fact that the scarcity of nuclei and the absence of blood vessels in the cornea and, consequently, the slower emigration of leucocytes, allow this stain to show bacteria unusually well in the corneal spaces.

The next section shows gonococci in the cornea. For this section I am indebted to Dr. Gertrude French[13] of Portland, Ore. She got the material from the private practice of Dr. Gruening of New York. For evident reasons, such material is very rare.

Before leaving the subject of ulcer of the cornea, I would allude to the fact that our branch of the science of medicine is abreast of the times in the field of serum therapy. The use of diphtheria antitoxin in diphtheritic conjunctivitis is ancient history, and I believe it is appropriate here to register the ophthalmologist's debt of gratitude to von Behring. Recent work in the subject of serum therapy applies to that miserable ulcer of the cornea—the serpent ulcer. This work has been done by Römer,[14] and in his last communication he reports results that give us reason to expect that by the use of this serum this ulcer will lose its terror.

While dealing with this region of the eye, I may direct attention to a recent and interesting suggestion of Mr. Collins[15] as to a reason why wounds of the ciliary region are especially apt to be followed by sympathetic ophthalmia. He calls attention to the facts, that perforation of the globe in the region of the choroid is not apt to be followed by prolapse—the uvea tends to retreat

5. Hala: Zeitschrift für Augenheilkunde, 1901, 6.

6. Denny, F. P.: Observations on the Morphology of *B. diphtheriæ, B. pseudo-diphtheriæ* and *B. xerosis,* Jour. of Med. Research, 1903, ix, 2, p. 117.

7. Friedenberg, P.: Expression of the Lid Margin as a Therapeutic Measure in Blepharitis and Its Complications, N. Y. Med. Jour., March 7, 1903, p. 413.

8. Römer, P.: Experimentelle Untersuchungen über Infectionen vom Conjunctivalsacke aus., Zeitsch. f. Hyg., 1899, xxxii, p. 295.

9. Mayer, G.: Zur Kenntniss der Infection vom Conjunctivalsacke aus., Münch. Med. Woch., 1900, No. 34, p. 1169.

10. Hiroto, K.: Ueber die Infection vom unverletzten Bindehautsacke aus., Centralbl. f. Bact., 1902, xxxi, p. 225.

11. Uhthoff u. Axenfeld: Beiträge zur pathol., Anatomie und Bacteriologie der eitrigen Keratitis des Menschen, v. Graefe's Arch., xlii, 1, p. 1, 130.

12. Uhthoff u. Axenfeld: Weitere Beiträge zur pathol., Anatomie und Bakteriologie der eitrigen Keratitis des Menschen, v. Graefe's Arch., xliv, 1, p. 172.

13. French, C. G.: Description of an Eyeball Lost from Gonorrheal Ophthalmia, N. Y. Eye and Ear Infirmary Reports, January, 1897, p. 62.

14. Römer, P.: Weitere Untersuchungen zur Serumtherapie des Ulcers corneæ serpens, Bericht der Ophth. Gesell., Heidelberg, 1902, p. 2.

15. Collins, E. T.: The Erasmus Wilson Lectures on the Anatomy and Pathology of the Eye, Lancet, Feb. 24, 1900, p. 523.

from the sides of the wound; in wounds of the cornea, the iris may prolapse, but it is not left with a vascular membrane over it; while in the ciliary region, a wound is apt to result in a prolapse, and such a prolapse will be covered with a vascular membrane—the conjunctiva—which is very prone to inflammation. "The possibility of subconjunctival entanglements of the iris or ciliary body forming the track along which inflammation (bacteria), likely to excite sympathetic disease, may enter an eye any time after the receipt of an injury, may be one reason why wounds of the ciliary region are specially liable to be followed by this complication."

The next specimen, for which I am also indebted to Dr. Shumway, is one which shows streptococci in the lens. This resulted from a penetrating wound.

The next shows the tubercle bacillus in an eye with tubercular iridocyclitis, which Dr. Hotz enucleated, and which I have recently examined. My experience in staining fully twenty-five sections of this material before I found one single bacillus illustrates one of the difficulties in this kind of work. The section of this material stained with hematoxylin-eosin explains the scarcity of bacilli in it, for it shows vigorous granulation tissue and an abundance of phagocytes. In such tissue tubercle bacilli are always hard to find. I would call particular attention to the character of the cellular infiltration in this process—large mononuclear leucocytes—in contrast to the cells which were shown in the anterior chamber of the eye that was destroyed by the serpent ulcer—polymorphonuclear leucocytes; and after seeing these two specimens, it is interesting to recall the views of Metchnikoff on phagocytosis—the large mononuclear leucocytes, as befits their slower and more unwieldy character, have a preference for animal cells and for bacteria of chronic disease, e. g., for tubercle and leprosy, while the polymorphonuclear leucocytes show a preference for the microörganisms causing acute disease. I would point out the fact that the anterior chamber, being practically a large lymph space with more or less fixed walls, has long been a particularly good region in which to study some of the general pathologic processes.

The next slide shows tubercle bacilli from a case of miliary tuberculosis of the choroid, and the next is a section from this case stained with hematoxylin-eosin, showing several foci of infiltration. I may say here that there is a great temptation in some of these specimens to point out interesting histologic features. I have resisted this so far as possible because of the time limit.

The next two sections illustrate difficulties that may be encountered in a search for bacteria in iridocyclitis or panophthalmitis. The section is from an eye sent to me for study by Dr. C. Zimmermann of Milwaukee, who enucleated it because of an acute inflammatory condition. It will be seen to have all the features of a bacterial process. In a search for bacteria, I stained and studied many sections. With Weigert's modification of Gram's method I found areas like the one illustrated by the next slide. I may say that more than one excellent bacteriologist, on examining this section, pronounced this a probable colony of bacteria. Without any question, these are not bacteria, but are granules of cells, probably mast cells. It will be recalled that mast cells are uncommonly abundant in the eye in inflammatory conditions, and it will be seen that, on account of the staining reaction of the granules of these cells, they here easily may mislead one. As was said, a thorough examination failed to demonstrate bacteria in this eye, although they must have been the cause of the acute process. This points to another possible difficulty in demonstrating bacteria in panophthalmitis, i. e., the bacteria may very quickly disappear. That microörganisms may quickly disappear has been experimentally demonstrated lately by Silberschmidt.[16] Working with a form of the hay bacillus, which caused panophthalmitis when injected into the eye of a rabbit, he discovered that on the third or fourth day after the infection the organisms could not be found in smears, and cultures remained sterile. In the case of the eye that I have just spoken of, it was removed four days after the general practitioner noticed that it was inflamed.

THE ESSENTIALS AND NON-ESSENTIALS OF OPHTHALMIC ASEPSIS.*

HAROLD GIFFORD, M.D.
OMAHA.

There are two fundamental propositions which should be kept in mind in our attempt to do aseptic eye surgery. First, that the conjunctival sac in the great majority of cases, and probably always, contains germs which are pathogenic, or which can, under certain conditions, become so. The white pus coccus is probably as constant an inhabitant of the conjunctival surface as it is of the skin. The pneumococcus of Fraenkel is frequently found there and probably occurs more often than most experimenters would have us think. I judge this to be the case from the difficulty with which it is grown and the ease with which its colonies are overlooked, when other germs are plentiful. The germ which occurs in the largest numbers in the conjunctival sac is the so-called xerosis or pseudo-diphtheria bacillus; and, although it is generally described as non-pathogenic, some of the best authorities regard it as a variety of the true diphtheria germ, and believe that, under proper conditions, it may become virulent. I have found it as the sole inhabitant of small abscesses in the lids, and Hala,[1] who has made the most careful study of the subject, believes it to be the common cause of chalazia. Kastalskaja[2] has found it in two cases of panophthalmitis, and it has recently been reported by Warnecke[3] as a cause of purulent otitis media.

The second premise to keep in mind is that to rid the conjunctival sac of these germs is a practical impossibility. This fact has been asserted often enough, but many operators still seem to dote on the idea that by rinsing out the sac with sublimate 1 to 5,000, or some other equally harmless mixture, they can obtain an aseptic operative field. In the latest work of that master of ophthalmology, Panas,[4] this notion evidently prevails, for he says: "The removal of the microbes and other impurities is not complete unless the lids are widely opened by the lid holder and the fluid, in the shape of a stream, is forced under them," etc. If there are any present who believe in the efficacy of such measures they need only make a few cultures from the retrotarsal folds of eyes that they have thus prepared for operation, to be convinced of their error. Furthermore, the germs can

16. Silberschmidt, W.: Zur Aetiologie der Panophthalmie nach Hackensplitterverletzungen, Bericht der Ophth. Gesell., Heidelberg, 1902, p. 222.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Zeitsch. f. Augenheilk., November, 1901.
2. Abst. in Arch. f. Augenheilk., 36, 3, p. 165.
3. Abst. in Centralblatt f. Bacteriologie, 30, 18, p. 710.
4. Am. Jour. Ophthal., March, 1903, p. 74.

not be rubbed out without injuring the tissues; and even if a small portion of the conjunctiva be everted and isolated by means of a Desmarres clamp, the area thus brought into plain view can be thoroughly wiped with moist swabs and treated with various antiseptics, and still, after waiting a minute or two, a scraping from it will show the presence of germs. The lashes also are a favorite abiding place for pathogenic bacteria. The main body of the lashes can apparently be freed from germs by thorough scrubbing with fat-dissolving agents, but none of these has any marked influence on the germs gathered about the roots of the lashes. I have tried all the most highly recommended methods and have found invariably that if, after the attempted sterilization, the lashes are pulled out instead of being cut off, a growth of germs, generally the white pus cocci, will be obtained from the roots. The method of Von Pflugk,[5] which consists in scrubbing the lashes with swabs dipped in benzine, is no exception to this statement. In the trials which I have given this method there has generally been no growth of germs from the shafts of the lashes; but from the roots germs have grown, as in all my previous experiments. I have said nothing about the tear passages because, while we recognize them as a constant possible source of infection, they could be cut off by one means of obliteration or another, if, by doing so, we should be certain of an aseptic field.

Starting with these premises, it is evident, I think, that a certain share of the precautions which general surgeons are apt to consider necessary, can, for the ophthalmic surgeon, be regarded as unessential or even to a certain extent detrimental. To begin with the bath: many operators in describing their technic refer with evident pride to their insistence on every patient taking a full bath. Now, while for esthetic reasons this may be eminently desirable, it seems to me that for an eye surgeon to have his patients take a full bath with any idea that he will on that account get better results from his operations, is on a par with the logic of the medicine man who beats a tom-tom to drive out the spirit of disease. Furthermore, the rigid enforcement of such a rule may occasionally lead to serious trouble. I have in mind an old Irish woman who, so far as I could learn, had never taken a full bath in her life, but who had, nevertheless, lived very happily and in perfect health to the age of eighty. On being sent to the hospital, the head nurse, as a matter of routine, had her stripped and put into the tub, and this unusual experience so excited the old lady that her mind became unbalanced and she was so unruly during her stay in the hospital that it was only through the purest good luck that she did not lose her eye. With regard to the preparation of the skin of the eye lids, it is obvious that the vigorous measures frequently employed in surgery to rid the skin of germs can not be used to advantage here, and unless the operation actually involves the skin, it is questionable whether the latter really needs any special attention, although there can be no objection to any such cleansing as can be done without irritating the eye. Where the skin of the lids is involved, besides scrubbing it carefully with sterile swabs, I think it advisable to paint the skin with 4 per cent. silver, allowing the latter to dry on. I have adopted this plan because I have found that by touching sutures with this solution once a day they can frequently be left in for a week or more without causing any suppuration, even if no bandage is applied. For cleansing the lashes, the benzine method of Von Pflugk is perhaps better than any other, but since it may be that some of the apparent efficacy of this method is due, not to the germs being killed or even removed by it, but to the remnant of some non-volatile impurity of the benzine being left on the lashes, I believe the safest plan in all operations on the globe is to cut off the lashes and, after scrubbing the roots with benzine swabs, to anoint them with an oxid of zinc or some other stable ointment, so as to hold in the germs which are invariably left on them. It may be asked why not pull out the lashes as recommended by Schiötz. My objections to this are that it is decidedly painful, and that it generally causes a marked reaction due, in my estimation, to the increased activity of the germs which must inevitably be left behind in the lash sockets.

The lid margin can apparently be temporarily sterilized by wiping it carefully with sterile swabs, though in doing this care should be taken to wipe away from the palpebral fissure and not to go over the same ground more than once with the same swab. All of these preparations, however, with the exception of cutting off the lashes, are probably non-essential for reasons which will be made evident when discussing the form of bandage.

The preparation of the normal conjunctiva, for an operation on the globe, should be conspicuous for its simplicity or even absence. Realizing that no plan has been discovered which will rid the sac of its germs, we naturally conclude that nothing must be done which will injure the conjunctival epithelium or excite any unavoidable irritation. All irritative antiseptics are worse than useless, and while I formerly wiped out the sac with a moist absorbent cotton toothpick-swab immediately before important operations, I found so many patients in whom even this simple procedure could not be carried out thoroughly without a certain amount of violence that I have abandoned it in all cases where the conjunctiva is entirely normal, limiting my interference with the conjunctiva to wiping it carefully at the point at which I intend to enter the knife; with the addition of an occasional irrigation of the field during and after the operation. As an irrigating fluid, a freshly made and freshly sterilized normal salt solution is probably the least objectionable, but in practice I generally use a boracic acid solution, since the salt solution, if kept in stock, is more apt to permit a growth of fungi which, though easily killed, might nevertheless render the solution somewhat irritating and unstable, while the boracic acid solution, if kept in a vessel with a layer of undissolved crystals at the bottom, is practically free from such growths.

Anything in the way of a preparatory bandage is to be abjured. Numerous experiments have shown that these always increase the number of germs in the normal sac. With regard to the tear passages, if there is any obstruction in the duct or inflammation of the sac, preliminary treatment should, of course, be instituted if there is a reasonable chance of restoring normal conditions in a short time; otherwise, as a preparation for a cataract extraction, it is probably better to extirpate the sac or close up the tear points with the galvanocautery; though I must confess that I have never attempted the latter procedure and have doubts as to whether the cautery will close the points as readily as some seem to imagine. In the case of patients who can be seen several days before a cataract extraction, I believe it is a good routine to slit the upper tear points slightly and inject some indifferent solution in order to be sure of the patency of the duct and the freedom of the sac from even minute quantities of pus; but where the patient must be operated on within twenty-four hours or so, if

5. Arch. f. Augenheilk., 45, 3.

the conjunctiva seems perfectly normal and there are none of the ordinary signs of obstruction of the duct or inflammation of the tear sac, this precaution may be omitted, since it is almost impossible to dilate either punctum without abrading the membrane; and any such abrasion, until entirely healed over, may furnish the breeding place which will convert a tolerably innocent germ into a pathogenic one. The practice of putting on a bandage twenty-four hours before an operation in order to test the condition of the conjunctiva and tear passages is, as I have previously suggested, decidedly objectionable. With regard to the bandage, there are, I think, very few who believe in using absolutely no protection for the eye after a serious operation. If our patients were all rational both when awake and when asleep this plan might be worthy of consideration, but as it is, I believe it to be a waste of time to discuss it. Whether to leave the eyelids entirely free under some sort of a shield is a more open question. It seems to me that it is decidedly easier for a patient to keep his eye still if a gentle uniform pressure is exercised on the lids, and the quieter the eye is kept for the first twenty-four hours and perhaps longer, the smaller the chance of secondary infection. I am aware of the claim that the action of the lids helps to rid the conjunctival sac of germs, and as previously mentioned, it is certain that in an eye not operated on the number of germs in the sac is increased by bandaging; but these considerations are more than outweighed, in my mind, by the rest which the binocular bandage secures to the operated eye; and as a matter of practical experience I have gained the impression that where an eye operated on is left open under a shield there is more apt to be an increase of secretion and irritation than where some sort of covering for the lids is used. The experiments of Genth[6] indicate, as one might *a priori* conclude, that the sterilization of the bandage materials is a matter of little moment. Genth made numerous operations on the rabbit's eye and applied bandages of cotton infected in the grossest way with pathogenic germs; and, in spite of this, obtained an infection in only six out of sixty-four cases. All of the infections occurred in a series of fifty operations in which the cotton placed next the eye was completely saturated with a fresh bouillon culture of virulent germs, while in fourteen other experiments in which the bandage cotton was infected in a number of places by wiping off the germs from a spatula dipped in the cultures, no infection took place. When we consider the exaggerated way in which these bandages were infected the conclusion is natural that under ordinary conditions the danger of infection from the average unsterilized cotton is so slight as to be hardly worth considering.

Not knowing just what process was adopted in the preparation of our best absorbent cotton and gauze bandages, I had several samples from standard manufacturers examined in the laboratory of the University of Nebraska in the hope that they might be found sterile. Portions of fresh packages of cotton and of gauze bandages were taken from the outside roll, from the inner rolls and from the ends, but with two exceptions germs growing on agar were found in all the experiments. The germs were not numerous nor were they of well-recognized pathogenic varieties, probably all belonged to the common atmospheric bacteria, but to allow for the possibility of some pathogenic germs being present, I have since then, as before, placed next the eye after all serious operations a layer of cotton which has been freshly boiled for ten minutes in a boracic acid solution. These experiments of Genth also indicate the slight importance of attempting to cleanse the lashes and the outside of the lids, although, on account of the real danger of touching the lashes with instruments, I believe, as previously stated, in cutting off the lashes.

There has never seemed to me to be any sense in sterilizing the roller bandage which is applied outside the cotton.

In deciding whether the cotton which comes next the eye should be moist or dry I have been influenced by the fact that the secretions from the conjunctiva never stick to moist cotton, while if there is any discharge under a dry cotton dressing it is always found stuck both to the lids and to the cotton. This convinces me that where there is any discharge containing mucus or pus, a moist dressing, or a dressing with some stable ointment, can alone be relied on to furnish good drainage. But if wet cotton is used it must, of course, be covered with rubber tissue or something similar to keep it moist. These, however, are matters of minor importance in comparison with the question of how best to apply the dressing so as to secure its prime object, namely, the protection of the eye from external violence and from infection by the patient's fingers. The best protection from external violence can only be secured by using one of the various shield dressings which provide an arch of some firm material, whether it be pasteboard, celluloid, gutta-percha, or metal; and to secure safety from the patient's fingers, nothing approaches the certainty afforded by pasting down the edges of the shield or bandage with thin strips of absorbent cotton and collodion.

The importance of distinguishing between the essentials and non-essentials of ophthalmic asepsis is in no way so well illustrated as by the various and, from a bacteriologic standpoint, heterodox methods employed by oculists in sterilizing their instruments. An operator who will insist on his patients taking a full bath and on sterilizing every scrap of bandage or cotton that comes within reach of the patient, will rely on some totally inadequate measure for sterilizing his instruments. In the paper by Panas, previously referred to, he says: "All objects used for bandaging, gauze compresses, silk threads, must be sterilized by steam at a temperature of 120 degrees for at least one-half hour. The absorbent cotton, whether in rolls or pledgets, is sterilized in tin boxes or wire baskets at a temperature of 150 degrees." This is not altogether necessary, but it certainly can not be objected to, but the sterilization of the instruments, the most important part of all, he dismisses with the following sentence: "All instruments of whatever kind must be previously immersed into boiling sterilized water to which has been added some bicarbonate of sodium which prevents rusting." Other operators put their instruments for a short time into one of the so-called antiseptic solutions. Now, there are few more pathetic things in the history of medicine than the innocent faith with which many excellent men, with no first-hand knowledge of bacteriology, have relied on the efficacy of everything that any investigator has seen fit to declare a germicide; and nothing has proved more deceptive than a vast amount of work which has been supposed to demonstrate the germicidal value of this or that chemical. The reason for this is found in the ease with which many germs, with their vitality in no way impaired, can be prevented from growing by minute traces of the chemical under investigation. And all the while we have in boiling water a disinfectant which all investigators agree in declaring infallible within certain limits. The comparative unpopularity among oculists

6. Arch. f. Augenheilk., 46, 2.

of the disinfection of instruments by boiling depends perhaps on the idea that boiling harms the keen edges and points of our instruments. I can not say that boiling has absolutely no such effect, but I do say that after having used the method for seventeen years, I have seen no evidence of it. That instruments are frequently injured while being boiled is true enough; but this is due, in my opinion, to their being rattled about together with the edges unprotected; while if the precaution be taken to wrap the points and blades tightly in cotton, no harm is done by the boiling itself. I have in my case a keratome which I have used at least a dozen times, boiling it from eight to ten minutes each time, which still cuts as well as the day that it came from the sharpener; but to obtain this sort of result, it is necessary also to have the instrument wiped and rewrapped immediately after it has been used. Boiling certainly spoils ivory or bone handles, but not those made of hard rubber, which I prefer to metal. There is one danger, however, which the disinfection by boiling opens the way for: If the instruments are not perfectly dry, a drop of fluid is liable to run down from the fingers to the eye; and to avoid this I have the instruments boiled immediately before each operation and have the water, while it is still boiling hot, poured out of the vessel; the heat which the instruments retain quickly drying off the moisture on the handles, the cover being replaced until the operation begins. A one per cent. solution of carbonate of sodium is perhaps as good as any thing to prevent rusting. Just how long the boiling should be continued is a somewhat open question. The ordinary pus cocci and probably all bacteria, except when in the form of spores, are killed by from one to two minutes boiling in a closed vessel. The spores of most, if not all, the germs commonly recognized as pathogenic are killed by about five minutes' boiling in a closed vessel; while, on the other hand, the spores of certain well-known saprophytes, such as the peptonizing bacilli of milk, will stand from ten to sixteen hours of boiling without apparent injury. Luckily, these germs are entirely harmless, but to allow for the possibility of some new pathogenic germs of unusual resisting powers being present, some compromise, such as a ten-minute boiling, has seemed to me reasonable, always, of course, boiling in a closed vessel. I will confess, however, that when in a hurry I sometimes boil the instruments five minutes only.

Collyria may, of course, be sterilized by boiling, but as cocain solutions lose their strength when boiled repeatedly, I sterilize a small quantity immediately before each operation, by suspending the tube which contains it in a pan in which the swabs for the operation are boiled for ten minutes. After the sterilization of the instruments it is not always so easy to keep them sterile until after the operation is completed, and, while it may seem superfluous, it will, I think, bear frequent repetition that the fingers of the operator, the skin, lashes and lid margins of the patient should all be regarded as more or less septic, no matter how carefully they may have been cleansed, and should not under any circumstances be touched by any instrument that must enter the globe; and the conjunctiva itself and the fluid in the sac should be touched as little as possible.

The management of the thread to be used for sutures is one of the most difficult tasks which the surgeon who wishes to be aseptic has to encounter. The threaded needles can be boiled with the other instruments if the silk be wound on bits of rubber tubing to keep it from getting tangled; but in introducing sutures into the conjunctiva it is very difficult to keep the thread from touching the lashes or skin of the eyelids, even if the patient wears a gauze mask.

With regard to the person of the operator, the full bath can, from a surgical standpoint, be classed with the luxuries, and the same may, I think, be said of the more elaborate attempts at disinfection of the hands, except in the rare cases in which the oculist must touch the tissues with his fingers. In my own experience, I can recall but three cases in which this has been necessary, the disease in each of these being a tumor of the orbit. It is now universally recognized that no method can be relied on to completely sterilize the hands, nevertheless the general surgeon tries to come as near the ideal as possible; but for the oculist it seems to me that anything beyond a good scrubbing with sterile soap and water and a careful drying on a sterile towel is a waste of time except in the rare cases mentioned. With regard to the dress of the operator, a surgical gown or jacket presents a good appearance and may be of some use, but it is far less essential than some form of protection of the nose, mouth, beard and hair, partly on account of the danger of dandruff falling directly on the operative field, but chiefly to hold back the germs from the nose and mouth which, as Flügge and his pupils have shown, are constantly shot out into the air while talking, coughing or sneezing. It is tolerably easy to have caps with face pieces made for this purpose, but nothing is so simple as a double thickness of gauze, about eight inches broad and a yard long. The center of this is placed over the nose, mouth and chin, and the ends crossed behind the head and brought around so as to cover the vertex and forehead as well.

I have thought it best to discriminate against the non-essentials in ophthalmic asepsis because if the methods are simplified there is a better chance that the essentials will receive the scrupulous attention which they deserve.

A paper of this kind necessarily deals with tedious details, and if it has seemed unusually tiresome I can console you with the assurance that I could easily have made it much more so without exhausting the really important features of the subject.

DISCUSSION

ON PAPERS OF RANDOLPH, PUSEY AND GIFFORD.

DR. CASEY A. WOOD, Chicago—There is one condition from which it seems to me especially desirable to protect the eye: chronic dacryocystitis with dilatation of the sac and infection of the canaliculus and parts surrounding it, in any operation that involves the opening of the eyeball. I have recently had two cases where I was faced by this problem. It was not possible to treat the condition according to the Hirschberg method for two or three months. I have the same objection that Dr. Gifford referred to in speaking of the use of the galvanocautery. I also object to the extirpation of the sac; it takes too long to heal. I have resorted in a few cases to a little device mentioned by Knapp in his article in Norris and Oliver's System, i. e., shutting off the canaliculi by means of a simple suture, the thread being passed around the canaliculi as near the puncta as possible. No harm results, the suture does not cut through within nine or ten days after the operation, so that the wound in the cornea or sclera has time to heal. My two cases (of chronic dacryocystitis with double cataract) acted so nicely that I can recommend it to you as a simple and efficient device. Before tying the canaliculi I in one case filled up the sac and canaliculus with argyrol; and when the sutures were removed the brown fluid flowed out from both puncta, showing that no adhesion of the walls of the small canals had taken place at the site of the sutures.

DR. IRA J. DUNN, Erie, Pa.—Dr. Randolph speaks of the action of streptococci not being persistent. I would like to

report a case in which they were to me painfully persistent and active.

A foreign body had remained in the cornea for nearly a week. The eye was treated after removal of the foreign body one week when the patient was sent to me. A large sloughing ulcer had formed near the center of the cornea. It was cleaned and cauterized. and iodin, iodoform, etc., were applied in the very careful manner so fully discussed and advised in this Section last year, but with no avail.

The eyeball perforated, panophthalmitis resulted and the eye was enucleated. Infection of the orbit followed, and this extended to the lower lid. The cheek and neck of the corresponding side became swollen and edematous. The opposite side was involved also, but did not slough. Temperature rose above 103. It was in an elderly subject and there was much discomfort and nervous agitation from the systemic disturbance. Three doses of antistreptococcus serum were given within a few hours and after the first dose the temperature began falling, the progress of the orbital inflammation began subsiding and the patient became quiet and comfortable. While there was a large slough in the lower lid there was no further anxiety and little deformity resulted, an artificial eye being comfortably worn.

DR. W. H. DUDLEY, Easton, Pa.—For some time I have been in the habit of making an examination of the secretion of inflamed conjunctivæ, and within the past few weeks two cases have come to my office which have demonstrated the importance of doing this as a routine measure in any suspicious case. There is a certain class of cases in which the acute conjunctivitis with the Weeks bacillus will produce a very severe attack. There is usually very little difficulty in diagnosticating a case of gonorrheal ophthalmia, though it may occur.

The first case I refer to was one of gonorrheal ophthalmia, and examination of the secretion in the office at the time showed at once any number of the organisms of Neisser.

A week or two later one of the physicians of our town came in with his lids and conjunctiva swollen almost a duplicate in appearance of the former case. I asked if he were treating any patients with gonorrhea, and he said he was, several. The condition looked alarming. I made an examination of the secretion at once and found it consisting of a pure culture of the pneumococcus. Of course we were both greatly relieved, and this demonstrates the usefulness of making these examinations of the conjunctival secretion when there is a possible question of its character.

DR. ADOLPH O. PFINGST, Louisville, Ky.—This subject is of the greatest importance to all of us. The mere fact that the conjunctival folds harbor such pathogenic organisms as the streptococcus, staphylococcus and pneumococcus is a point that should make us consider carefully a thorough sterilizing of the sac. I believe we should carefully cleanse the conjunctival surface of the lids and the edges. We should get out hands as sterile as possible and be prepared in every way just as the general surgeon is. We should leave no possibility of getting these germs into our wound. As to the sterilization of instruments I think the heat doesn't affect the edge of the knives as much as is usually supposed. The dullness is caused more by the operation, cutting through such tissue as the cornea than it is by the boiling.

DR. A. R. BAKER, Cleveland, Ohio—It has been my custom for many years to wrap my knives and forceps in cotton and place them in boiling water. I boil them only a short time. Then while waiting for the anesthesia I amuse myself by wiping the points of the instruments with bits of sterile absorbent cotton held between the forceps in the boiling water. I adopted this practice many years ago from some experiments made for me by a young bacteriologist. We had fewer growths with this way of cleaning the instruments than with any other method. This method of wiping the knives has proven to be sufficient to remove the bacteria.

DR. E. C. ELLETT, Memphis, Tenn.—I would like to mention a method I recently adopted to prevent infection in case of cataract extraction. The case was one of incurable conjunctivitis due to a mixed infection of the staphylococcus and pneumococcus, and the method I resorted to was this: preceding the operation I incised the conjunctiva all around the cornea and dissected it up from the eyeball for a space of about a half inch away from the cornea. I then did the operation of extraction, and picking up the edges of the conjunctiva brought them up over the cornea and sutured them in that position. There was not an undue amount of reaction. The sutures were removed on the fourth day, when the corneal wound was healed and the conjunctiva eventually slipped back to its normal position. The patient got vision of 20/30 without a needling operation.

DR. W. R. PARKER, Detroit—I want to mention one case on which I operated after the method of Dr. Ellett. Without going into details, I followed his method, suturing the conjunctiva over the entire cornea. The sutures were removed on the third day. At the end of the second day after sutures were removed the whole lower portion of the cornea was exposed, and on the third day the whole cornea. Vision was 20/40.

DR. J. H. CLAIBORNE, New York—The health and vitality of the patient have much to do with the healing of cataract wounds. I had one case that illustrates this very well. An old man of seventy-two, apparently healthy, with clean conjunctiva, was operated on by the combined method. The wound remained unclosed for nine days, and at the end of that time became infected. Inside of ten days or two weeks he developed acute nephritis. I could not trace any source of infection, and could only assume that his vitality had been very much lowered and his tissues were unable to resist the presence of the bacteria in the sac. The older Critchett used to say he would never do a corneal section where the patient was not in good health.

DR. HAROLD GIFFORD, Omaha—In regard to Dr. Ellett's method, while I do not question its originality so far as he is concerned this is a tolerably old idea. De Wecker recommended the purse-string suture for protecting corneal wounds and Kuhnt has been recommending a flap drawn down from above as a protective measure in some cataract extractions. For the last three years I have been using a modification of this method, putting in a purse-string suture beginning and ending at the lower margin of the cornea, but dissecting up only the upper half of the conjunctiva. The suture is thus ready to tighten the instant the extraction is finished, and still the lower part of the cornea is left free. I have used the method in four or five cases of dislocated lens with good results. I have also used it in one case of cataract extraction with dacryocystitis, without a trace of infection.

As to the method referred to by Dr. Baker of sterilizing his instruments, there is no doubt that if you use sterile cotton in this way you can get off most or all of the germs. At the same time you can not tell but what you may just loosen up some of the bacteria which do not come away on the cotton but are ready to come away on your tissues. I think it is certainly safe to boil the instruments for ten minutes. Of course some of the more resistant spores can not be destroyed in that time, but the ordinary pathogenic germs are killed in a few minutes by boiling in a closed vessel; and in ten minutes you can be reasonably sure that your instruments are safe.

He Can Not Afford It.—No man, irrespective of the amount of work he is doing, can afford to remain out of the medical society in his county. He needs the society and the society needs him, and his active work in the society means a broadening of the influence and sphere of usefulness of both. Too many medical men are now in a rut for want of the influence and advantages offered by contact with other medical men in medical societies, and it is to reach such a class of men and to stimulate active members of medical societies to increased effort, that the organization scheme has been proposed by the American Medical Association. The movement is in the right direction and should receive the encouragement and support of all physicians who have their own interests as well as the interests of the medical profession at large in view.—*Ft. Wayne Med. Jour.-Mag.*

SOME CLINICAL ASPECTS OF TUBERCULAR PERITONITIS.*

JOSEPH EICHBERG, M.D.
CINCINNATI.

Among the many startling results that have followed the introduction of laparotomy, exploratory or curative, none shows a more decided departure from beliefs of a former generation than the present attitude of the profession with regard to tubercular peritonitis. The surprising clinical fact, recorded by Sir Spencer Wells, that a case of tubercular peritonitis, accidentally opened under a mistaken diagnosis of ovarian tumor, should not only recover from the immediate effect of the operation, but promptly go on to apparent recovery, and end in perfect restoration to health was so anomalous a history that it savored of the miraculous. This was before the days of bacteriology, and while the battle as to the single or dual nature of tuberculosis was a great pathologic issue. With the knowledge of the bacillus as the one essential feature in causation, and with the great advance in surgical technic, the pathologic relations, as well as the clinical features, have received a more critical study, and much light has been gained.

Brunn[1] gives a most comprehensive review of the literature of this subject from 1885-1900. Our knowledge may be said to have reached its greatest development in this period. Many of the tables and references are taken from an analysis of this review. Of some 28,000 cases coming to autopsy, many of these were healed, many showed co-existing diseases of other organs. Tubercular peritonitis was found in 2¾ per cent. As early as Morgagni we find descriptions of tubercular peritonitis, with the significant statement that it frequently occurred with pulmonary tuberculosis, and a suggestion of the similarity of adhesions here formed with those observed in the pleuræ and pericardium. Almost a century of study has thus been given to this particular form of tubercular disease.

The peritoneum may be one of the sites of local manifestation of a generalized miliary tuberculosis, but the term tubercular peritonitis is generally understood to apply to the chronic form of the disease, which in a measure constitutes a distinct affection. Even here the process is usually secondary to disease, appearing primarily in some distant part, most commonly the lungs; or the peritoneal involvement may follow by direct extension or by dissemination through the lymph paths, or by a simple process of grafting from a previously ruptured tubercular focus having access to the peritoneal sac, and sowing, as it were, the elements of the disease over the entire membrane.

As primary foci near the abdominal cavity may be mentioned psoas abscess, caries of the vertebræ, tuberculosis of the genitourinary tract in both male and female, including the suprarenal gland, tubercular ulceration of the intestine, solitary tubercle of the spleen, and tubercular disease of the retroperitoneal glands. Some cases of tubercular peritonitis appear to be primary, as shown partly by the manifestly greater age of the diseased parts of the peritoneum when contrasted with the evidence of tuberculosis in the other organs, in part by the absence of any other discoverable tubercular deposit. In children the appearance of primary tubercular peritonitis is more frequent than in adults; of 22 cases reported by Rilliet and Barthez, 12 were classified as primary.

Tubercles may be distributed uniformly, more or less thickly set, over the entire peritoneum, or they may form nodular masses of varying sizes which undergo caseous or ulcerative changes, and thereby furnish the nucleus of secondary daughter tubercles in the vicinity.

With such multiplicity of lesions, and with the symptoms of the primary pathologic process complicating most irregularly the clinical picture of the peritoneal affection, it is not surprising that there should be a wide range in the symptomatology. On the basis of the postmortem findings various classifications have been made. The simplest recognizes two forms, the dry and the exudative, including under the latter head the caseous and the purulent varieties.

From a clinical standpoint Hawkins divides all cases into four varieties:

1. Latent.
2. Severe, with ascites and a spontaneous tendency to remissions or encapsulations.
3. Cheesy purulent form, with frequent formations of large caseous masses and adhesions.
4. Fibrous-adhesive form.

The French and English authorities generally describe three varieties:

1. Ascitic.
2. Fibro-adherent.
3. Ulcerative form with or without suppuration; while Galvani gives five, and Aldibert has some eleven subdivisions.

Judging by inoculation experiments, differences in the pathologic product of the bacilli depend in some degree on the source of infection. Injection into the peritoneum made with fluid obtained after weakening of the bacilli in sputum by exposure to a temperature of 60 degrees, produces rather the fibroid; the use of a fluid rich in bacilli or of unemulsified sputum, the cheesy, purulent variety.

Injection of the first tuberculin of Koch produced no reaction, whereas the tuberculin R caused proliferation of the intestinal serosa.

The general symptoms of tubercular peritonitis are pain, fever, emaciation, anemia, anorexia, to which are to be added as more purely local manifestations, change in the contour of the abdomen, ascites, diarrhea, or constipation; and, occasionally, redness or inflammation about the umbilicus, with possible perforation and formation of a suppurating sinus or of a fecal fistula; profuse and very exhaustive sweats occur in the caseous and ulcerative varieties. Of physical signs, the most important may be properly said to be the alteration in the impressions conveyed by palpation, whether in the dry or exudative cases. In children, particularly, the examiner is apt to be impressed by the manifest malnutrition, so that there is a striking contrast between the distended abdomen and the general emaciation. With the patient on the back and the abdomen relaxed to the utmost possible extent, there will usually be noted an oval or round distension of the cavity, very different from that due to ascites, arising from other causes. There is not the tendency to bagging in the groin, or above the iliac fossa. If liquid be present, it is rarely perfectly free in the abdominal cavity, being bounded in one or other direction by firm adhesions. After absorption of this fluid the exploring hand experiences a sense of tension or hardness in the abdominal wall, a peculiar elastic resistance, which, according to Grisolle,

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

1. Cent. f. allg. Path. u. Path. Anat., 1902.

is found in no other malady, and which has been described by DeMussy as an incomplete elasticity with resistance, as though the hand were plunged into firm dough.

In addition to this the abdominal wall may, over certain areas, give an impression of plaque-like thickening, there being in these places increased induration and resistance. Palpation should always be made by laying the whole hand gently yet evenly on the abdominal wall, and then carefully indenting the fingers, preferably moving all the fingers together, so that no indentation of the walls occurs at any one point. In this maneuver it will occasionally be found that adhesions and loops of intestine, particularly when distended, may simulate tumors, especially in the region of the cecum. Occasionally loops of intestinal coils may be seen and felt through the thinned muscular wall; this is exceptional. Palpation will also show the presence of fluids, which may or may not obey the law of gravity with the patient's change of posture.

Attention has already been directed to the cases with exudation as constituting a special class; yet the value of such classification may well be questioned, when it is remembered that in very many cases the presence of abundant fluid constitutes rather a phase than a form of the malady. In children, for the most part, and in many adults, the so-called ascitic form is only transitory, and the fluid is later resorbed; so that the value of effusion as a symptom may depend on the period at which the case is seen. It may even happen that as the effusion disappears, the contour of the abdomen changes, though a permanent meteorism usually occupies the space occupied by the fluid. Thomayer has called attention to a physical sign of some value. In the shortening of the mesentery resulting from tubercular infiltration, retraction takes place toward the base of attachment, so that the entire mass of intestinal coils, when not previously adherent, is drawn upwards, backwards, and to the right, while the fluid exudation accumulates below, and to the left.

By this change the symmetry of the abdomen is often disturbed, as may be verified by inspection, palpation and percussion. Palpation will also disclose the presence of the transverse induration about or just below the level of the umbilicus, due to the infiltrated and curled-up omentum. This sign is wanting where, as often happens, previous adhesions have fixed the omentum to some of the pelvic viscera or to its brim. Where tubercular ulceration exists, particularly if multiple, movable cylindrical masses, in reality the hose-like, greatly infiltrated intestine can also be outlined. In some instances a distinct friction rub, either localized or more general, will be noted; it may be a very mild friction, what the French writers term starch-like, *amidonienne,* or an unmistakable harsh, rasping rub. Auscultation may be employed to control or check the results of palpation. During palpation one observer describes the condition as suggesting that the abdominal wall and subjacent viscera, firmly united by adhesion, could not glide over each other. The friction rub is felt more frequently in the upper quadrants. Percussion corroborates the presence of the fluid, and its data should be carefully noted. It will inform us as to whether the fluid is movable or sacculated in small pockets, as often happens; according to Grisolle, in one-tenth of the cases.

A careful record of the areas of dullness should be kept from day to day, for, as Christie has remarked, a striking feature consists in the atypical character of the percussion data, changing slowly and imperfectly with change of posture, but often varying spontaneously. It can usually be determined that the quantity of the fluid is inconsiderable; it may amount to 2 or 3 liters, but never equals the enormous amounts encountered in cases of obstructive lesions of the portal vessels.

Of the general symptoms fever is perhaps the most inconstant. It may be encountered at one stage of the disease (usually in the earlier periods) to disappear for many weeks or months and return when ulceration takes place in some of the caseous masses. The number of observations on the temperature is not very extensive, yet enough has been collected to show the frequent absence of fever in cases where the diagnosis has been confirmed by autopsy or by laparotomy. It has been absent in the majority of my own cases. In 16 cases observed by Hinterberger there was fever following the operation in 14; five times it had existed before, 9 times it developed for the first time after operation, and two cases remained afebrile throughout. In several cases occurring in my own practice, other physicians, while inclined to the diagnosis of tubercular peritonitis, had found the absence of fever an insuperable barrier to such a conclusion. High fever usually accompanies ulcerative tissue destruction. Pain may be entirely absent. It occurs in the majority of all cases; it is oftentimes constant and fixed, though it may change both in intensity and location. Its development is often very gradual, consisting at first in a sense of uneasiness, which becomes accentuated where any weight rests on the abdomen, and is certainly felt on pressure. Despite the fixity of the lesion, the pain may be erratic, and its maximum intensity may not correspond with the location of the trouble. When not spontaneously present it may often be developed by suddenly releasing the abdominal wall, previously depressed by firm and gradual application of the flat of the hand, as suggested by Henry. In adults persistent abdominal pain, with no other symptom than progressive emaciation, would suggest a possible tubercular peritonitis. The tenderness over infected viscera may become extreme.

Diarrhea is the regular accompaniment of tubercular ulceration of the intestine, but in other forms constipation is the rule. There may be but one movement daily, but the dejections are liquid, and this fact may be utilized in diagnosis. In children the stools are often acholic (Berggrün and Katz), though there is no jaundice or bile-coloring matter in the urine, the clay color of the stools being due to excess of fats. On the other hand, the constipation may be most aggravated, and may go on to complete intestinal obstruction, due to the pressure of strands of adhesion, twisting or paralysis of the bowels, or the formation of large tumor masses in which intestinal coils become adherent. The obstruction usually ends by yielding either spontaneously, or with medication, after some days. Death has resulted, the end coming slowly after twenty to thirty days. Anorexia is frequent; vomiting, especially in children, is very rare.

Periumbilical inflammation may occur in other forms of suppurative peritonitis, but is most frequently due to tuberculosis. From this hasty summary, it will appear that there is no absolute sign that clears the diagnosis, which is often to be made only by exclusion. Age has a most important bearing. While exceedingly rare in children under one year of age, one case only in 300 collected by Carr, the early periods of life contribute the largest contingent, a fact frequently overlooked because of the tendency to spontaneous cure; it is infinitely the

most common form of peritonitis between the ages of six and ten, and, though beginning acutely, may soon become subacute and thus continue throughout.[2] Spontaneous cure has baffled many students; yet no one would to-day repeat such a criticism as this of Siredey: "We believe that Hilton Fagge suffers from a strange illusion when he says that the majority of children suffering from tubercular peritonitis may be cured by mercurial liniments, and we hasten to add that such observations as he has cited in support of his views are absolutely valueless." It is difficult to divorce from the professional mind the idea of necessary fatality in connection with tuberculosis of any internal parts.

In doubtful cases with ascites, the withdrawal of fluid has been recommended for agglutination and inoculation tests. Benedix claims to have found a positive agglutination test in a dilution of one to ten, while a non-tubercular ascites failed; both conclusions were corroborated by autopsy, the second case showing cirrhosis. The inoculation test in lower animals would, however, appear to be the main reliance. Bacteriologic examination of the fluid withdrawn may show nothing, yet the same fluid will promptly give rise to an inoculation tuberculosis in guinea-pigs. A most important factor in diagnosis is the coexistence of tuberculosis in other localities, particularly tuberculosis of other serous membranes. Aran has formulated his view that tuberculosis of the peritoneum often is a part of a more generalized process affecting serous membranes. Goddier says: "Where there is tuberculosis of the peritoneum, there is always tuberculosis of one or both pleuræ as well," and other observers have directed attention to what is termed an isolated tuberculosis of serous membranes. As the starting point for this form of tuberculosis is often found in the genital tract, a very careful examination of these organs is essential. In women nodular masses of varying sizes will frequently be found in and about the pelvis.

Laparotomy does not always establish the diagnosis. Even with the entrails exposed, error is possible. Echinococcus vesicles, the eggs of the tenia, and simple cell inclusions have all given rise to tubercular formations, whose macroscopic diagnosis was impossible. The nature of the fluid is often suggestive, the sacculation of the exudate, the whitish opacity or bloody tinge of the liquid with its viscid, jelly-like consistence, all argue for tuberculosis; absolute certainty is, however, only possible with the microscope or inoculation test; but tuberculosis may be generally assumed as the cause of nearly all nodular tumors, merely on the doctrine of averages.

We now come to the question of laparotomy. The example of Spencer Wells, of performing an operation under a mistaken diagnosis, for a condition which then promptly improved, has been unintentionally repeated several times, and probably will continue to be repeated. Too much credit for the recovery can not fairly be assigned either to the operation or the operator. König undoubtedly is responsible for the popularization of laparotomy as an element in the treatment; and since his day there have been many undoubted cases, as shown by autopsy or by survival for many years of healed tuberculosis following abdominal section. Indeed, some cases are on record of coexisting tuberculosis of other organs, in which, following operation, these additional lesions presented notable improvement. Has this not been another instance of the *post hoc*? The operation is constantly urged by the surgeon, and Pribram goes so far as to advise its performance in every case, which shows no improvement after a few weeks of medical treatment, even where there is a pulmonary complication.

Good results have followed simple incision, irrigation of the cavity, drying of the peritoneum, resection of diseased parts, and other modifications. The essential feature seems to be an incision, even when not carried into the cavity; for there are many cases in which the cavity no longer exists. Some regard as essential the mere access of air, and Mosetig, to be on the safe side, merely punctured the abdomen, and then inflated it with sterilized air, thinking thereby to impart some altered quality to the bacilli. Then it has been held with unconscious humor that the opening of the abdomen allows of such rapid drying that the bacillus dies. Others regard the effect as due to more pronounced reaction of the serous membrane after operation. In cases with ascites the mere mechanical relief following withdrawal of the fluid can be easily understood; the diminution of pressure may also allow better conditions for resorption and improve the circulation. It is a widely entertained opinion that operation assists the peritoneum to more effective isolation of tubercular foci by stimulating the growth of new formed connective tissues. Another more modern theory would explain the action by the agency of antitoxins, whose formation is started by the operation, or of alexins generated in the blood; while another view attributes the improvement to the actual escape of the bacilli and their spores through the incision the moment they have a chance to get out!

After all this elaborate effort at explanation, the true answer to the question as to why laparotomy cures tubercular peritonitis, is: "Because it does not." The percentage of recoveries without operation, for all ages, and with or without complications, is greater than with operation. This is admittedly true of all forms except that with effusion, and here the results of medical treatment have been most satisfactory; for these are the cases which tend most commonly to spontaneous cure. In the course of five and a half years Herringham observed twenty-five cases diagnosed as tubercular peritonitis, of which nineteen recovered without operation, and three were unimproved. He finds the only justification for operation is a return and increase of the ascites, after puncture. Hawkins reported fifty-nine recoveries, all but three of whom were treated by internal medication. From a collective report of 112 cases treated by operation, Hawkins concludes that the percentage of recoveries is as great without as with operation, the indication for which is furnished by the presence of marked ascites. The distinguished surgeon, Czerny, cautions against expecting too much from the operation, whose mortality in his hands has been very high, for out of ten cases operated on, but two survived after three months. Leyden asserts that operation furnishes no better results than can be secured without it. He attaches little importance to experimental inoculation or the detection of the bacillus, and thinks general symptoms sufficient for the diagnosis. Where abdominal tension from fluid is great, he recommends occasional punctures. According to Pic, the ulcerative form may heal in children, never in adults; the fibroid form heals in both, and the form best adapted for operation is tuberculosis with ascites. Wheeler declares that the operation is absolutely contraindicated where there is no exudation in the abdomen, or where there is abundant development of nodules and bands, or where there is marked tuberculosis of other organs, especially intestinal ulceration. With this view

[2] The proportion of the sexes is nearly equal before ten years, but the female sex furnishes a much larger contingent after this.

I am heartily in accord. Wheeler also advises against drainage, owing to the likelihood of a fistula, fecal or tubercular.

The operation has been particularly recommended for exudative cases in children, but in the last number of the *Archives of Pediatrics*, Guthrie gives a summary of some personal experience showing recoveries with and without operation in the ratio of 16 per cent. to 50 per cent. His language in condemning the operation is not without a tinge of bitterness.

Jaffé has shown that many cases reported as cured still contained at the time when they subsequently came to autopsy, smoldering foci of tubercular disease, which required apparently but the merest accident for general dissemination, or for reappearance of the local process in active form.

The opinion that a diagnosis of tubercular peritonitis calls for immediate laparotomy is certainly erroneous, not to say vicious. It would be responsible for many deaths. In the hands of the most skilled surgeon the mortality incidental to the operation *per se* is not less than 10 per cent. Cases requiring relief by operation can be temporarily improved by simple puncture and withdrawal of the fluid. The majority of such cases under the tonic regimen will end in recovery without operation. It will be found that some cases will disappoint every expectation of improvement, under any plan of treatment, and again complete recovery will follow under conditions apparently most unpromising. What the particular factor is that determines the issue must still be doubtful, but increasing experience and most careful analysis of figures would lead us to place it in that unknown chemical and physiologic property, the native resistance of tissues. We may assume a variability in the toxic properties of bacilli, even as we see variations in structural details; and this variability plus the equally variable inherent constitutional resistance gives us our equation, whose resultant is naturally most inconstant. It is certain that the peritoneum, perhaps even in greater degree than most other serous membranes, possesses the property of finally disposing of the tubercle bacillus, by a process of fibroid inclusions, so effective that it not only results in a limitation of the infected area, but often in the actual destruction and disappearance of the pathogenic germ. We find ourselves coming back to the standpoint, which Virchow investigated in his studies of the "combat between the cells and the bacilli," and, while sparing no endeavor to limit the possibilities of entry of the bacillus, and to render innocuous those sources of infection easily controlled, it will be found that our best weapon lies in so fortifying the cells which, in the final test, must bear the brunt of the fight, that the natural processes of reactive inflammation may lead to the development of organized fibroid tissue. As in the fight against tuberculosis in the larger arena, so here the solution will be found in giving to the patient, in greatest abundance, good food, pure air, unbroken rest, and ease of mind. It is not that we would slight the surgical management of such cases; but surely that science is best which by early recognition of diseased conditions and prompt institution of appropriate remedies protects the patient from the necessity of submitting to the hazard of operation, with the possibility of no permanent relief. Immediate recovery from the effect of the operation can not be counted an advantage. It remains for collective investigation to show the percentage of patients in good health six months after the operation, before determining the position of laparatomy.

As illustrating somewhat different types, I append a brief history of the following cases:

CASE 1.—Discrete tubercles of peritoneum, probably secondary to appendicitis, with ulceration discovered at operation for appendicitis. Recovery.

S. R., aged 12. Has had repeated attacks of appendicitis, some very severe, others of less duration and intensity, coming on as often as every two months in the year preceding operation. Boy always pale, thin and feeble. Bowels habitually constipated; no appetite. In intervals between attacks no tenderness of abdomen, no induration or sensitiveness anywhere about abdomen. Operation for removal of appendix in February, 1892. Appendix thickened, surrounded by adherent omentum and intestinal coils, small perforation with sacculated cavity containing a few drops of pus. Neighboring loops of small intestine, and parietal peritoneum showed limited number of gray nodules, firm, translucent, surrounded by a pigmented crescent, but apparently giving rise to little, if any, local reaction. Recovery after operation prompt. No subsequent symptoms except slight hernia in line of incision relieved by second operation. Young man to-day enjoys excellent health. There was no family history of tubercular disease; no signs of pulmonary or other involvement preceding operation.

CASE 2.—Generalized chronic tubercular peritonitis, with special localization about liver, producing chronic perihepatitis. Ascites. Repeated puncture. Death.

J. H. patient male, aged 54, single; generous liver. Family history good. History of persistent alcoholism, never carried to excess. Taken sick with sudden pain in abdomen, most marked in right hypochondrium; chills, fever of intermittent type; anorexia, constipation, gradually increasing distension of abdomen, dyspnea, emaciation, anorexia, subsidence of fever, but increase of abdominal swelling. No cardiac or renal disease; no jaundice. Physical examination shows abdomen distended with ascitic fluid, freely movable. Liver dulness not easily made out. Some tenderness or palpation over abdomen. After withdrawal of 2½ gallons of straw-colored fluid liver dulness found to be slightly increased. Abdominal walls apparently thickened and unusually resisting. No fever. Reaccumulation of fluid in very brief period. Death six months after onset of symptoms from exhaustion. Autopsy confined to abdominal cavity. Chronic perihepatitis (capsule thickened so as to measure half an inch), generalized tuberculosis, parietal peritoneum about one-quarter inch in thickness, intestinal coils showing few adhesions. Retroperitoneal glands enlarged, reddened, no tubercular infiltration. Diagnosis corroborated by microscopic sections.

CASE 3.—Dry adhesive peritonitis with caseous salpingitis. Operation. Final recovery after prolonged suppuration from tubercular sinus.

L. B., aged 21, dressmaker. Fairly well nourished, single. Family history, several deaths from tuberculosis in direct ancestry. Never been very robust, menstruation at 15, fairly regular, painful. Appetite poor, chronic constipation. No fever. Some pain in back and tenderness over abdomen. Physical examination, no pulmonary involvement. Abdomen oval, distended, rather resistant, no mass or induration. No fluid. Diagnosis, tubercular peritonitis. Under general measures and attention to bowels some improvement. Four months later patient passed through attack of typhoid fever of moderate severity, during which persistent abdominal distension was most distressing symptom. Complete recovery from typhoid. Pain in abdomen dull, heavy and variable, continued. Operation. General matting together of all viscera; omentum stretched tightly in front had to be detached from borders of pelvic cavity, showing caseous tuberculous infiltration and softening of both tubes, several tubercular abscesses in pelvic cavity. Following operation patient has gained some in weight, the temperature slightly lower in range, but still persistent. Exudate still being poured out, however, showing the process still active.

Removal of adnexa, cleaning out of tubercular debris, irrigation and drainage. Tedious recovery and persistence of dis-

charge from sinus left after removal of drainage tube. Irrigation of fistulous tract with zinc chlorid solution; no effect. Following use of small quantity of peroxid of hydrogen, marked and sudden increase of pain in abdomen with collapse, probably giving way of adhesions due to pressure of liberated gases when peroxid reached deeper parts of tract. From this time on marked aggravation of symptoms, increased discharge, great pain on movement, some fever, final and complete recovery about five months after operation.

Case 4.—Chronic tubercular peritonitis with sacculation by formation of an artificial diaphragm across lower part of retracted intestines and mesentery. Operation for movable kidney a year earlier showed no tubercular disease in abdomen. History furnished by Dr S. P. Kramer, with whom this case was seen in second operation. Tubercular fistula, still discharging.

Mrs. E. T., housewife, aged 33. Mother of five children, all healthy. One brother dead from tuberculosis. Other family history negative. March 20, 1902, operated for floating kidney, right side. At that time pelvic organs normal. Present illness of about six months' duration. Abdominal distress, intestinal indigestion, great deal of flatus and pain in bowels. For past two months gradually increased dropsical swelling in lower part of abdomen. Temperature ranges from 99 F. in morning to 101 in evening. Examination shows fluid in abdomen, serous in character. Confined to lower segment of abdomen and pelvis. Abdominal walls tense, protruding; eversion of umbilicus, no tumor discoverable. Bowel resonance does not change when position of patient is changed. Abdominal walls thickened by peritoneal deposits. Ovaries and tubes matted together so that they can not be palpated. Menstruation regular and normal. Urine normal. Feb. 12, 1903, laparotomy. Ovaries and tubes markedly tubercular; parietal peritoneum, having deposits of tubercles and tubercular hypertrophy. Pelvic organs separated from intestines by about three quarts of bloody serous fluid, which became partly gelatinous on exposure. Above the fluid there had formed a diaphragm of adhesion completely walling off the intestine from the cavity occupied by the fluid.

Ovaries and tubes removed. Abdomen closed without drainage. Primary union. On the twelfth day discharge from the lower angle of wound of about half pint of same fluid as before. At this point there formed a fistula the size of a pin head, which continued to discharge serous fluid up to date of discharge, March 14, 1903.

Case 5.—Tubercular peritonitis wih slight ascites. Chronic pleurisy, operation, no improvement. Occurred in gynecologic service of my friend Dr. Withrow at Cincinnati Hospital.

E. Y., female, aged 32, housework, colored. Family history not known. Menstruation at 16, regular, lasting four to five days. Complains of pain in abdomen, especially low down in left side, extending down left leg. Some backache coming on in paroxysms; never pregnant. Admitted to Cincinnati Hospital Jan. 18, 1903. Unable to work for three months past. Swelling of abdomen began about three weeks before admission so severe that she could not wear her clothes. Swelling at first more marked on left side. Swelling varied from time to time. Not much pain. T. 100.2, P. 108, R. 24. Slight tendency to constipation. No appetite. Some resistance on palpation over lower half of abdomen, where resistance is more marked, where there is no tenderness on deep pressure. On day after admission dulness over left lower quadrant; remainder of abdomen tympanitic. Enema to unload bowel did not change physical signs. Next day dulness had completely disappeared. Vaginal examination negative. Evening temperature 102. Five days after admission dull area in lower left quadrant again present, extending somewhat beyond median line to right. Two days later dull area on left side does not reach to median line. I saw the case eleven days after admission. There could then be made out a small quantity of fluid in left chest, an indurated mass lying transversely across abdomen just below umbilicus, about 1½ inches in thickness, 4½ inches in length, not tender, slightly movable. Peculiar doughy elasticity of abdominal walls. Evening temperature reached 104. Laparotomy February 4. Incision 1½ inches in length in median line. Peritoneum thickened and gelatinous. About a quart of straw-colored fluid escaped. Peritoneum everywhere thickly studded with tubercles, those in the pelvis larger than on intestinal or parietal layers. Wound closed. Union by first intention. Apparently nothing gained by operation. Temperature ranges for next month, during which time patient was under observation, continued same as before.

Case 6.—Tubercular peritonitis, secondary to ulceration of intestine. Indurated bowel palpated through abdominal wall. Laparotomy; death in eight hours.

Mrs. E. D., aged 48. Married, one child, housewife. Still menstruating, never robust, but always well until one year ago. Began to have some pain in abdomen. Pain at first not constant; abdomen always sensitive, so that weight of hand accidentally resting on it as she lay in bed was painful. Not much appetite. Fever for three months with pretty constant diarrhea. Large liquid stools. Anorexia. Lately very profuse sweating. Abdomen tense, oval distension. A movable cylindrical mass felt in right iliac fossa. No pulmonary symptoms. Vaginal examination negative. Diagnosis, tuberculosis of bowel with peritonitis. Operation. Several areas of cylindrical induration of bowel discovered, making resection impossible. Pelvic viscera and entire parietal and visceral peritoneum covered with recent tubercles. Wound closed. Patient never rallied. Death in six hours.

Case 7.—Secondary to tubercular pleurisy, adhesive form. Laparotomy. Death in three days.

J. H., saloonkeeper, aged 37. Brother died of phthisis. Always well until two years ago; had grippe. Pleurisy with exudation, relieved by repeated aspiration. Final obliteration of pleural sac. Abdominal distension gradually growing worse for six months. Slight fever, emaciation, obstinate constipation. Physical examination shows dulness over the base of the right lung posteriorly, due to the greatly thickened pleura. Breath sounds very distant. The abdomen distended, irregular areas of dulness in the midst of tympanitic resonance. Diagnosis, tubercular peritonitis with sacculation. Operation. All viscera matted together. A few small pockets of fluid are broken up; possibly eight ounces of turbid liquid escaped. Wound closed. Death on the third day.

Case 8.—Pain in abdomen. No ascites, no fever.

Child, aged 11. Family history good. No previous illness. Sick four months. Characteristic distension of abdomen. Tenderness on pressure slight. Principal pain comes on after eating so that the boy fears to take food. Steady emaciation. No fever. Bowels constipated. In right iliac fossa a mass can be felt as though made up of adherent omentum; this is not particularly tender. Owing to prominence of gastric symptoms, test meal was given. Analysis showed normal condition of gastric juice. Treatment, rest in bed. Forced feeding. Still under observation.

Frequency, as Determined by Autopsy Findings.

	Cases.	Autopsies.
Schalmack .....(378)	54	5,425
Münsterman .....(383)	46	2,837
Phillips .....(384)	107	2,230
Sick .....(521)	46	2,500
Steger .....(395)	283	3,493
Adossides .....(396)	74	4,815
Herringham .....(586)	56	2,297
Borske .....(394)	226	4,250
Total	792	27,847

Cases.	Males. Per cent.	Females. Per cent.	Males. Proport'n.	Females. Proport'n.
Under 10 years....	45.5	54.5	7.0	9.0
10 to 20 years.....	14.3	85.7	1.0	6.0
Above 20 years.....	6.7	93.3	1.0	22.5
	(Lindner.)		(Dresduer.)	

	Males.	Females.
Adossides' table of children	34 per cent.	66 per cent.
Adossides' table of adults	10 per cent.	90 per cent.

	Cases.	Males.	Females.
Vierodt	24	19	5
Fenwick	46	30	16
Schalmack (in 5,425 autopsies)	54	33	21
Munsterman (2,837 autopsies, 903 tub.)	46	33	13
Phillips (2,230 autopsies)	107	89	18
Sick (2,500 autopsies)	46	31	15
Steger (3,493 autopsies, 929 tub.)	283	151	132

	Cases.	Males.	Females.
Adossides (4,815 autopsies)	74	53	21
Haene	46	18	28
Schnitz (all children under 13)	32	15	17
Schroeder	24	9	15
Total	782	481	301

Relative morbidity of male and female: Total, 782 cases; males, 481 cases; females, 301 cases.

DISCUSSION.

DR. E. J. BROWN, Decatur, Ill.—Dr. Fenger, several years ago, advised against operation in these cases, showing that the mortality with the so-called medical treatment was less than with the surgical treatment. I think it is very discreditable to the profession to give a bad prognosis in tuberculous peritonitis. I have seen three cases, in which the surgeon who was called in consultation advised operation, all improve without operation.

DR. JAMES TYSON, Philadelphia—As a physician my experience with tuberculous peritonitis has not been large, but so far as it has gone I have about concluded that to treat it medically is to temporize; in other words, that there is but one treatment that is likely to lead to satisfactory re ults, and that is surgical.

TUBERCULOSIS IN THE NEGRO.*

SEALE HARRIS, M.D.

Health Officer of Bullock County from 1895 to 1903; President of the Southeastern Alabama Medical League; Councilor of the Alabama State Medical Association.

UNION SPRINGS, ALA.

Tuberculosis was a rare disease among the slaves in the southern states, yet, after a little more than a quarter of a century, it causes more deaths among the emancipated negroes than all the other infectious diseases. The negro death rate from tuberculosis is more than three times that of the whites from the same disease.

These statements, as startling to some as they are true, announce the motive which induced me to select for my theme on this occasion, "Tuberculosis in the Negro"; and if I can be the means of inciting any of you to consider the causes of this enormous mortality from that disease in the negro race and the measures to be taken for their relief, the objects of this paper will have been attained.

From the best information which I can gather, tuberculosis is unknown among the savage tribes in the interior of Africa. It is also unquestionably true that the negroes along the west coast of Africa were not affected by tuberculosis until the infection was carried there by the slave traders and colonists. However, since their exposure to the infection, the negroes in their native clime are not only more susceptible to tuberculosis than the white colonists who reside there, but the disease is more fatal among them. This is shown by the following table (Dr. Rudolph Matas, "The Surgical Peculiarities of the Negro"), which gives the mortality from tuberculosis in the English colonies for the negroes and whites on a basis of each 1,000 deaths:

	English.	Negroes.
Jamaica	7.5	10.3
Dominica	8.3	16.8
Guiana	6.4	17.9
Ceylon	4.9	10.5
Gibraltar	5.3	43.0

Tuberculosis was so rare among the slaves in the southern states that some physicians contended that the negro was immune to tuberculosis. I have heard large slave owners, and several physicians who had large practices among the slaves in Georgia and Alabama, say that they never knew of a case of consumption among the negroes prior to the war. The disease was so rare that in 1830 a Cincinnati physician reported a case of a negro with "undoubted consumption," in which the autopsy showed "unmistakable evidences of the disease." There were no doubt a few cases among the slaves, but the disease was rare and confined almost entirely to the slaves in the cities, where they were overcrowded and the sanitary conditions were bad. The fact that there were so few cases of tuberculosis among the negroes while they were slaves was a great triumph of intelligent, though enforced, hygiene, and it also proves that tuberculosis is a preventable disease, because prior to the war it was not of infrequent occurrence among the whites of the South. That consumption is almost a scourge to the emancipated negro we all know, and the only reason why it was not so with the slaves was that their habits and sanitary surroundings were better than those of many of their masters.

Because of their indolence and improvidence, I am sure that the majority of negroes in the South do not get a sufficient amount of the proper nourishing food and the other necessities of life on which to maintain health and vitality up to the normal, and such lack of nutrition, added to the worst possible ignorance and carelessness pertaining to personal hygiene, renders his tissues less resistant to bacterial infection of all kinds. In other words, it makes the tissues of the negro a suitable pabulum or soil for the invasion and propagation of the bacillus of tuberculosis. We also know that unless the tuberculous subject is well nourished he has but little hopes of recovery, and I am sure that one of the reasons why there are so few recoveries from tuberculosis in the negro race is that, as a rule, they are not provided with a sufficient quantity of palatable and nutritious food.

The following statistics of Charleston, S. C., which have been accurately kept for many years, show the increase in tuberculosis among the negroes since their emancipation: In 1860 the negro death rate was the same as for the whites, i. e., 12.00 per 1,000. The last census gives the white death rate in that city as 21.4, and the negro death rate of 43.1 per 1,000 of population. The deaths from "consumption," calculated at ten-year intervals, were in 1865, whites 57, negroes 74; 1875, whites, 54, negroes, 132; 1885, whites 57, negroes 209; and in 1895, whites 39, negroes 194. Estimated population in 1895 was, whites, 28,870; negroes, 36,295.

The census returns for the year 1900 show, in the "registration area," in which the statistics may be regarded as fairly accurate, that for every 100,000 of population there died from "consumption" 126.5 native whites and 485.0 of negroes.

I regret that I am unable to give any statistics regarding the mortality from tuberculosis in Alabama and the other southern states. I studied the census returns carefully and found but little that I thought would be of interest or value. The following letter came to my relief, and caused me to destroy most of the data which I had compiled from the census report, and I quote from it to show the fallacy of deductions based on mortality statistics of the United States Census Report, except those for the "registration area":

CENSUS OFFICE, WASHINGTON, D. C., Sept. 20, 1902.

Dr. Seale Harris, Union Springs, Ala.

Dear Sir:—I regret to state that this office can not furnish you any data that are of any value concerning either the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

general death-rate of the white and colored in the United States as a whole, the southern states, or for South Carolina and Alabama individually, or the mortality of these classes from tuberculosis.

The return of deaths in all of the southern states and in most of the other states was secured by inquiry of the enumerators, and falls very far short of being complete. In fact, the return is absolutely worthless for the purpose of computing death rates and any conclusions based on them would be erroneous. It is only in those states and cities that have efficient systems of registering deaths that we are able to secure anything like a correct return of the deaths that actually occur which can be utilized for determining the death rates. Unfortunately, there are no southern states, and very few cities which have a complete system of registration, and prior to 1890 this source of information was not utilized in any way in census statistics. Very respectfully,

W. A. KING, Chief Statistician.

The statistics for some of the southern cities are regarded as being as accurate as those for the registration area, and below I give reports of five representative southern cities:

RATES PER 1,000 OF POPULATION.

	All Causes.				Tubercular Diseases.			
	1890.		1900.		1890.		1900.	
	Wh.	N.	Wh.	N.	Wh.	N.	Wh.	N.
New Orleans	24.8	39.4	20.7	39.7	2.50	5.87	2.38	6.13
Mobile, Ala.	21.5	34.5	21.0	32.5	3.04	6.08	3.08	6.09
Charleston, S. C.	21.4	42.2	21.4	43.1	3.55	6.86	1.65	6.21
Savannah, Ga.	24.7	37.8	22.6	42.2	3.71	5.44	2.64	4.91
Richmond, Va.	22.3	37.6	18.1	32.8	2.30	4.11	2.05	3.94

The statistics which I have collected for Union Springs, with an equal population of whites and negroes, and which I think are reliable, show that in the past eight years there have died from tuberculosis fourteen whites and thirty-nine blacks; and of the considerable number of negro deaths reported with the cause of death unknown, I am sure that several died of tuberculosis. I do not know of any other statistics of any value for the small towns or rural districts of the South, for the reasons that the majority of deaths occur without the attendance of a physician, and are reported by midwives and undertakers, who know nothing of the causes of death.

The great prevalence of tuberculosis is not so much due to any inherent tendency to the disease as to their habits and environments, which render their tissues less resistant to the tubercle bacilli, and for the same reasons they fall easy victims to its ravages. However, it is no doubt true that there is a less development of lung tissue and the accessory muscles of respiration among the negroes than for the whites. Dr. McDowell, a surgeon in the United States Army, made frequent autopsies on white and colored troops during the Civil War, from 1861 to 1865. He found that their chest measurements were full (up to the army standard), but their lungs were always lighter and smaller than those contained in the same sized chest among the white troops. The statistics of Otis and Woodward for the same period are interesting. They found a less lung capacity and smaller brain for the negro troops than for the whites. They also found that of whites who contracted tuberculosis during the war, one out of two and one-half died, while of negroes twelve out of thirteen died. Dr. Russell, another army surgeon, states that the average weight of the negro was four ounces less than that of the white.

F. L. Hoffman[1] gives the following interesting table, which he compiled from the report of the Provost-General (Vol. I), and the reports of the Surgeon-General, U. S. A., 1893-94-95, which shows the difference in chest expansion of the slaves who entered the army, and of the emancipated negro of thirty years later:

COMPARATIVE CHEST MOBILITY OF U. S. RECRUITS, 1861-65 AND 1892-94:

Age Periods.	U. S. Army, 1861-65. White.	U. S. Army, 1861-65. Colored.	U. S. Army, 1892-94. White.	U. S. Army, 1892-94. Colored.
Under 20 years	3.26	3.17*	2.82	2.56*
20 to 24 years	3.25	3.28†	2.86	2.52*
25 to 29 years	3.22	3.25†	2.93	2.62*
30 to 34 years	3.22	3.19*	2.96	2.64*
35 to 39 years	3.26	3.18*	2.94	2.57*
40 to 49 years	3.18	3.34†	2.84	2.52*
All ages	3.24	3.23*	2.93	2.58*

* Excess in favor of white. † Excess in favor of colored.

This table clearly proves that there has been a diminution in the chest expansion of the negro since his release from slavery.

Gould has proven that the average lung capacity of the negro is considerably less than that of the white. Thus, for the average height of 5 feet 8 inches, the pulmonary capacity was for the whites 188.5 cubic inches, for the negro, 167.5 cubic inches—giving a mean difference in favor of the whites of 15.0 cubic inches. The pulmonary capacity of the average chest measuring thirty-six inches in circumference was for the whites 186.5, for the negro, 170.5—thus showing a mean difference of 16 cubic inches in favor of the whites.[2] Dr. R. M. Cunningham[3] has called attention to the "more or less encroachment of the abdominal organs on the thoracic viscera, and for that reason the perpendicular diameter of the chest of the negro is less than that of the same sized white." My observations, carried out on the line of Dr. Cunningham's ideas, from the examination of many healthy chests among the negroes, show that the normal liver dulness on the right side, sometimes extending as high as the fifth rib, and the tympanitic note over the stomach on the left side (Traube's semilunar space) of the negro are higher than that of the whites. I have also noted that Litten's diaphragm phenomenon is less marked in the normal negro than in the white.

Thus all observers agree that there is less development of the lungs of the negro than for the whites, and this physiologic difference no doubt accounts for, in a measure, the inordinate mortality from consumption, pneumonia, and the other pulmonary diseases among the negroes.

Dr. M. L. Perry, pathologist of the State Sanitarium of Georgia, examined the brains of 100 whites and the brains of 100 negroes. He found that the average weight of the brain of the negro was 100 grams, or 3½ ounces less than that of the whites. It is also well known that in the brain of the negro the convolutions are less complex, and the sulci are shallower than that of the Caucasian, which, added to the fact that his brain is smaller, gives the negro considerable less gray matter than for the white. Thus the negro's brain approaches nearer the Simian type than that of the Caucasian, which, according to our ideas of evolution, would place him on a slightly lower scale as a man than his white brother. Probably for this reason they are lacking in the inherent vital nerve forces which in serious illness is sufficient to make them succumb to all diseases, particularly those of a wasting nature like tuberculosis, than does his white brother, who is endowed with a better developed brain structure. I am sure that even under the most favorable circumstances, which I am sorry to say is given to but few of their

1. Race Traits and Tendencies of the American Negro, page 161.

2. Gould, Military Statistics, pp. 480 and 493.

3. The Negro as a Convict, Transactions of the Alabama State Medical Association, 1893, p. 321.

sick, the negro dies more readily from all forms of disease. I have known of many whites who have recovered from consumption when the treatment was begun early, but of the large number of cases which I have treated among the negroes I have seen but a few who showed even temporary improvement, and only one who recovered from the disease.

I would not be understood as meaning that there are any inherent differences in structure of the tissues of the whites and blacks—only a difference in development. The whites have many centuries of enlightenment and civilization under such varied conditions that there has been the psychical and physical development, which fits him to endure the manifold dangers of disease which beset us in our struggle for existence in this complex age, while the negro, a century or two ago, was a savage, perhaps a cannibal, who needed only to provide himself with food, of which nature so lavishes both animal and vegetable in the forest of the tropics of Africa. The heat of that climate made it unnecessary for him to have clothing to protect his body, and with the low altitude and the warm, humid atmosphere, less oxygen was required to maintain body temperature, so there was a corresponding lack of development of the lungs of the native African. This, the hygienic life which he was compelled to lead as a slave, was overcome to a great extent, as is shown by the table compiled by Hoffman, which makes it clear that the chest expansion of the negro was nearly, if not quite, equal to that of the whites in 1861-5, while in 1892-4 it was considerably less. However, the life of a slave did not fit the negro to provide for himself in a climate entirely different in environment to that which his ancestors had lived for ages, and the utter incapacity of the majority of negroes to take care of themselves and families in this climate is the great underlying reason why tuberculosis, which finds its victims in those of a lowered state of vitality, has increased so rapidly, and almost always proves fatal among the members of this unfortunate race.

The filthy habit of spitting shows its highest development among the colored population. Nearly all the men chew tobacco and their women use snuff, and the healthy and the tuberculous alike spit on the floors of many of their homes and churches. The best of their churches are provided with boxes filled with dry sand or sawdust into which they expectorate. The sputum, either on the floors or in the boxes, becomes dry and gets into the dust of the atmosphere, and the bacilli are inhaled in large numbers, and, lodging on lung tissue already weakened from the causes of which I have spoken, they find a favorable soil for their development. When we remember that the consumptive, with a cavity in his lungs, expectorates from 2,500,000,000 to 4,000,000,000 germs in twenty-four hours (Nuttall), and that tuberculosis is so prevalent among the negroes, we can see that this is no chimerical idea that their churches are among the great disseminators of tuberculosis.

Syphilis is not in the least allied to tuberculosis, but it is a well-known fact that syphilitics die from tuberculous diseases. Syphilis is certainly one of the great predisposing causes of tuberculosis, and the great increase in syphilis in the past thirty years has been *pari passu* with that of tuberculosis.

Gonorrhea, on account of their habits of licentiousness, is one of the most frequent diseases among negro men, and every physician who has examined many negro women knows how frequently they are afflicted with "pus tubes." Osler says: "Tuberculous peritonitis in America is a more common disease in the negro than in the white race, and recently collected statistics show that females predominate." Kelly has shown that a very considerable proportion of all cases is secondary to tuberculosis of the fallopian tubes. It is also well known that in man tuberculosis of the seminal vesicles often precedes the development of the disease in the peritoneum. My own observation has been that tuberculous peritonitis is a very much more frequent disease in the negro than in the white race, and that it is several times more frequent in women than in men. For this reason I am inclined to the opinion that gonorrheal salpingitis, prostatitis and seminal vesiculitis prepare the soil for the bacilli of tuberculosis, and from these loci minoris resistentiæ the disease originates and extends to the peritoneum. Therefore, it seems that the gonococcus is the indirect cause of a considerable proportion of negro deaths from tuberculosis.

A great many negro children die from tuberculous peritonitis, which is frequently secondary to the disease in the intestines, and I have no doubt but that the causes of death in many cases reported as gastroenteritis are really enteritis and peritonitis of tuberculous origin.

Nasal catarrhs, tonsillitis, bronchitis and other troubles which are commonly called colds, which are frequent precursors of phthisis pulmonalis, are very prevalent among the negroes, and are rarely ever treated. They are exposed to all kinds of weather, and in winter many of them do not have sufficient clothing to keep the surface of the body warm. Their lack of personal cleanliness, as is demonstrated by their proverbially characteristic odor, which, by the way, is not so noticeable in those who bathe frequently and regularly, prevents the skin from acting freely, therefore, predisposing factors in the development of so much consumption among the negroes, and for the same reasons they are prone to the most virulent types, i. e., acute pneumonia phthisis, phthisis florida or "galloping consumption." Those of us who have treated many cases of tuberculosis among the negroes have seen them die from the acute pneumonic type in a few days or weeks. I am quite sure that many of the deaths reported as due to pneumonia really result from acute pneumonic or bronchopneumonic phthisis.

While the lungs of the negro are the organs most frequently attacked by tuberculosis, he is subject to all its protean forms. Tuberculous pleurisy and meningitis and tuberculous disease of bones and joints are of frequent occurrence among them. Indeed, there is hardly a tuberculous condition which I have seen described that I have not seen in the negro. Lupus seems to be less prevalent among them than any other form of tuberculosis. Lupus, however, seems to be a rare disease in the South.

That tuberculosis is so prevalent among the negroes everyone admits, yet every year goes by and almost nothing is done to stay the hand of this fearful disease, which, with the other diseases to which the emancipated negro is especially prone, threatens the extinction of the negro race and, indeed, greatly endangers the happiness and lives of the whites of the South. This is no new theory with me. Hundreds of other physicians in the South hold to the same opinion, but the whites generally and the negroes do not seem to realize the danger which threatens to almost exterminate the "ward of the nation."

F. L. Hoffman[4] says: "It can be proven at the present time that the colored race is subject to an inordinate

4. Race Traits and Tendencies of the American Negro, p. 82.

mortality from consumption and respiratory diseases, which will menace the very existence of the race in the not far distant future."

Dr. Cunningham says in his paper on the "Negro as Convict": "In conclusion, I will submit that the race problem will be largely settled in the event of public works being established throughout the South, which means ready money for the negro; that means the profitable practice of prostitution; that means gonorrhea and consequent sterility; tuberculosis will do the rest."

Dr. Rudolph Matas,[5] in his splendid and comprehensive paper on "The Surgical Peculiarities of the American Negro," makes the following statement: "Tuberculosis has been called the "great white plague"; but if we look at this matter statistically and through the eyes of all experienced observers we would with greater propriety call it the black plague, as it is unquestionably the dominant cause of the increasing death rate of the negro in this country."

Dr. P. B. Barringer, Chairman of the Faculty of the University of Virginia, in his masterly address before the Montgomery (Ala.) "Race Congress," placed tuberculosis as the principal factor in "that grand but ghastly tragedy—the sacrifice of a race."

I am not an alarmist, and this paper, which calls particular attention to the weak points of the negro, is written for no other purpose than to call attention to the alarming increase of tuberculosis in that race, with the hope that something may be done which will lessen the frightful mortality of the disease in this generally kind-hearted people. The South is doing a noble part by the negro in the line of education, and I am glad that it is so, because without the guiding and protecting hand of a master, the African and his descendants in this climate and this strenuous age can only hope to survive the struggle for an existence through the education of their minds and the training and development of their bodies. If for no other reason than that of self-protection, it is high time that the whites of the South, on whom must fall all the cares and responsibilities of managing the affairs of state for the public good, should take steps to prevent the continued spread of tuberculosis among the negroes. If our cooks, nurses and other servants have the disease there is danger of our families becoming infected. Incidentally, I will mention that I do not believe that tuberculosis is decreasing among the whites of the South, and whatever steps are taken to lessen the prevalence of the disease should apply equally to the whites and negroes.

The methods to pursue in limiting an infectious disease like tuberculosis should be directed toward (*a*) increasing the strength and vitality of the individuals of the race, thereby rendering their tissues an unsuitable soil for the invasion and propagation of the specific germs of the disease, and in (*b*) preventing his exposure to the infective agent, as by the isolation of those already afflicted, and by destroying the organisms causing the disease.

The first proposition presented is the development and upbuilding of the minds, morals and bodies of a "child race," an alien people, placed under conditions and environments which would seem to be unfavorable to the growth and stability of the race, and wholly unlike those under which his ancestors had lived for centuries. In a paper like this I can only discuss this phase of the question briefly, but those who are interested I would strongly urge to read "The Race Tendencies and Traits of the American Negro," by F. L. Hoffman, the able statistician of the Prudential Insurance Co. of America. He has collected and published in this book, at an enormous expenditure of time and energy, the largest and most valuable statistics bearing on all phases of the negro question that I know of in all the literature on the subject. He has applied statistical methods in forming his deductions, and, being a German by birth, and, therefore, free from the so-called race prejudice, his conclusions are of great value, and the facts and figures which he has presented can hardly be questioned.

Much may be done to develop the negro through education applied on the right lines. He has every opportunity in the South that the whites have of obtaining both a common-school and collegiate education, but the moral, physical and hygienic education of the race is almost wholly neglected. By educating the children in these matters they would instruct their parents on the hygiene of their persons and their homes. Their school buildings should be inspected by the health officers in every county and should be kept in a sanitary condition. Regular physical exercises, directed especially toward developing their lungs and the accessory muscles of respiration, should be a part of the daily routine of school duties. The children should be taught the importance of taking frequent and regular baths; that filth means disease, and cleanliness should be required of them. They should be shown the direful effects of immorality on their bodies as well as their souls. A higher standard of morals and education in their ministry and among their teachers would help much in this direction.

Regular daily lessons and talks on practical hygiene should be a part of the curriculum of every school. They should be taught how to live in their homes; that there "cleanliness is next to godliness"; that fresh air and sunlight are among the great boons to humanity, and if they would have health they must have plenty of both in their homes. They should be shown the dangers of overcrowding; that health can not be maintained when more than two or three sleep in the average-sized room; that there is danger in sleeping in the room with any sick person, especially one with a cough. They should be doubly impressed with the danger of spitting on the floors, walls, or any place where the sputum can dry and dust particles get into the atmosphere; that the germs of consumption, which disease, the youngest of them know, is the cause of many deaths of their relatives and friends, is carried through the atmosphere and breathed into their lungs, and that the dried sputum is practically the only source of infection. They should be instructed in the hygienic management of a case of tuberculosis; that there is danger in even a casual association with a consumptive who is careless in his habits of spitting, but that there is little danger of contracting the disease even by close association with a person who has consumption, and who is cleanly in his person and at his home, and who is careful to expectorate into vessels containing dilute solutions of an antiseptic fluid, or into spit cups, which are burned before the sputum has time to dry.

They should also be taught that health and happiness come from regularity of habits and work, diet, recreation and sleep, and that a liberal quantity of all are required to keep in perfect health. Above all, they should be taught the manliness and honor of physical labor, and that their education fits them for their life's work, and not for a life of ease and luxury; that there is as much honor in farming as in teaching or preaching.

[5] Transactions of the American Surgical Association, vol. 14, p. ...

Industrial education is, therefore, a movement capable of doing great good for the race. They should be taught to economize, to save their money and put it in homes and farms. That for their race the dangers of Sodom lie in the towns and cities; that there lurk consumption and death.

These things, and much more, should be taught to the negroes, not only for the sake of right, but to make them stronger physically, so that they may resist the infection of tuberculosis.

The isolation of those infected with tuberculosis would unquestionably limit the disease in a great measure, but the difficulties of enforcing or carrying into effect in any way the isolation of the thousands of indigent tuberculous negroes in every state in the South are so great as to make the suggestion impracticable, though something may be done on that line.

The state could enforce the isolation of the tuberculous patients in their convict camps and penitentiaries, which are often great harbingers of the infection of tuberculosis.

The establishment of sanatoria for the isolation of the tuberculous should receive more attention from philanthropists and the civil authorities. In Massachusetts and other states they have been successfully conducted by the state for several years. Such establishments need not call for expensive buildings, but rather the cottage system, or even on the plans of the plantation quarters for slaves, where the negroes enjoyed such immunity to tuberculosis. They should be located in the country, where the inmates can get plenty of outdoor exercise and when able do farm work, and assist in paying the expenses of such institutions. Very few negroes would be able to pay their expenses at these sanatoria, and they would necessarily have to be charitable institutions, but they could be maintained at a probably less per capita expense than those at the hospitals for the colored insane, and I am sure that the same number of tuberculous negroes are a source of greater danger to their families and to their friends than the same number of their insane, if left in the care of their families. Aside from the isolation feature of sanatorium treatment for consumptives, the hygienic education that it gives to the patient and through him to his relatives and friends will materially aid in protecting many who are exposed to the disease.

There should be several such sanatoria in every state. Even if they should entail a great expense to the state, in the end it will be economy, because in a few years, perhaps a quarter of a century, when tuberculosis will have a chance at the weakened offspring of this and the coming generation of negroes, the havoc will be so great among that race and the danger to the whites so clear that enormous expenditures will have to be made in order to relieve the acuteness of the situation. The state and municipal authorities will spend thousands to prevent an epidemic of smallpox or yellow fever, yet spend almost nothing to prevent the spread of a disease which destroys a hundred times as many of our citizens, and which entails far greater and more prolonged suffering than both of those diseases, besides the direful effects on the offspring of its unfortunate victims.

Unquestionably, tuberculosis should be managed by the health authorities, as are the other infectious diseases. In some of the cities every case of tuberculosis is required to be reported to the health officers, who instruct the patient and his family as to the methods to use to prevent the spread of the disease. The patient is not interfered with in any way, except that he is expected to employ the usual methods of destroying the sputa, and to follow the simple rules of hygiene to protect those with whom he comes in contact. After the removal or death of the patient the patient's room, or house, is disinfected just as for other infectious diseases.

The health officer of every city and county should be required to understand the use of a microscope, and it should be a part of his duty to examine, without charge, every specimen of sputum sent to him. He should also be skilled in physical diagnosis, so that the physician or patient could call him in to clear up the diagnosis in cases of doubt, as is required of him in the other infectious diseases. We all know that tuberculosis is one of the curable diseases if the diagnosis is made early and intelligent treatment is applied. If the public could be educated to call in the health officer in the early stages of tuberculosis and thereby become certain of the diagnosis, not only would many of the patients be saved, but it would aid in lessening the infection, because it would give the health officer the opportunity of instructing the patient and his family on the hygienic measures necessary to prevent the spread of the disease before the home had become infected.

Since the tuberculous patient is dangerous to his friends and the community only from his ejected sputa and directly in proportion to his habits of spitting, the antispitting ordinances, which are already in force in all cities for their public buildings, cars and streets, are doing great good by lessening the chances of breathing the infection from the atmosphere. The states should adopt such ordinances for public buildings of all kinds, including schools, churches and depots. Of course, they would not always be enforced, but a placard announcing the ordinances and stating the reason for their adoption, would call attention to the dangers of spitting, and would aid in molding public opinion against the spitting evil.

Physicians who come in contact with negroes at their homes should, more than any other class of whites, consider it a duty to instruct them in the simple methods of hygiene, particularly when one of the family is afflicted with tuberculosis. The whites should be educated along the same lines, and when the laity, both among the whites and blacks, properly understand the nature of tuberculosis, the life history of its germs, and the methods to employ to prevent its spread, then, and not until then, may we hope to limit the ravages of this disease, the greatest enemy to mankind, and which is the principal agent that threatens the extinction of our "brother in black."

PUBLIC HEALTH POWERS.

WHERE UNDER OUR FORM OF GOVERNMENT DO THEY RESIDE AND HOW SHOULD THEY BE EXERCISED?*

W. H. SANDERS, M.D.
MONTGOMERY, ALA.

The theme for discussion involves the analysis of two questions:

1. Where under our form of government do public health powers reside?

2. How should they be exercised?

In dealing with the first of these questions it becomes necessary to call attention to a few fundamental principles and distinctions that apply to all forms of govern-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

ment. Obviously, in all governments power must be lodged somewhere, and on the seat of its lodgement depends the form of government. In a pure democracy all power resides in the people; in an absolute monarchy it resides in the ruler or king. Between these two antipodal forms of government many modifications exist, in which power varying in kind and degree is delegated to the legislative bodies or to officials, civic or military.

Every governmental power, therefore, that is true to the type of government to which it belongs must be derived from the source of power corresponding with that form of government, that is to say, in a democracy every governmental power that can be legitimately exercised must be derived, either directly or indirectly, from the people; while in an absolute monarchy every such power must come in legitimate descent from the king or ruler.

Without delaying time to deal with modifications of these two generic forms of government, it may be said that in any form of government the exercise of a power not clearly derived in accordance with the principle just stated is illegitimate, and therefore revolutionary and dangerous. It follows, therefore, that a public health power in order to be legal must be logically and legitimately derived from the source of power existing in the form of government of which it is a function.

This principle announced, we are now ready to enter on a specific discussion of the first division of the subject, namely, where under our form of government do public health powers reside?

All will concede that after the independence of the states was achieved and before the formation of the Union was accomplished all governmental powers of every kind, including, of course, public health powers, must have resided in the states, or in the people thereof. By the adoption of the federal constitution a national government was created, and to it certain powers were delegated, the powers so delegated being specifically enumerated. Unless it can be pointed out in the constitution that public health powers were surrendered to the national government, they must remain with the states, where they originally belonged. It may be safely asserted that no clause in the constitution can be pointed out that transfers public health powers from the states to the nation, hence the conclusion is irresistible that they still belong to the states. Any one who may take issue with this proposition is challenged to point out in the constitution the clause that overthrows it.

An official who occupies a national position in reference to public health matters was once asked by the writer to point out such a clause, whereon he forthwith cited the power to regulate interstate commerce, conferred on the national government by the constitution. The citation was utterly fatal to his contention.

Before concluding this paper evidence will be furnished from the highest possible source—the Supreme Court of the United States—to prove that while power to regulate interstate commerce does belong to the national government, power to regulate health does not so belong, the two powers being entirely separate and distinct.

Some persons assume that because the power of the national government is supreme in some things it must be so in all things, forgetting that the constitution itself specifically points out the spheres of supremacy of the national government.

"*Inclusio unius est exclusio alterius,*" or the inclusion of one is the exclusion of the other, is a logical law of interpretation that applies to the constitution of the United States as to all other documents.

By applying this law we are able to formulate the definite and incontrovertible proposition, namely, that all powers not specificially or impliedly conferred on the national government are reserved to the states.

Other persons assume that the national government possesses public health powers in and over the states because they think it should be so; that is, they permit their preferences, and not the constitution, to decide the question. Such a position is not entitled to any respect whatever; therefore, time will not be consumed in combating it. The question is, not what should be, but what is.

In this connection it may be well to quote the tenth amendment to the constitution, adopted soon after the ratification of that instrument by the states. It reads as follows:

> The powers not delegated to the United States by the constitution, nor prohibited by it to the states, are reserved to the states, or to the people.

In the face of these plain and strong words, and in the absence of any specific or implied grant of public health power to the national government, the conclusion can not be avoided that such power belongs exclusively to the states.

We now appeal to the highest tribunal in the land, namely, the Supreme Court of the United States, for an interpretation of the constitution on this point.[1]

In Gibbons vs. Ogden, 9th Wheaton, p. 203, Chief Justice Marshall said:

> Inspection laws, quarantine laws, health laws of every description, as well as laws for regulating the internal commerce of a state and those which affect turnpikes, roads, etc., form a portion of that immense mass of legislation which embraces everything within the territory of a state not surrendered to the general government. No direct general power over these subjects is granted to Congress, and consequently they remain subject to state legislation.

In Fertilizing Company vs. Hyde Park, 97 U. S., p. 667, Mr. Justice Swayne said:

> That power (the police power) belonged to the states when the federal constitution was adopted. They did not surrender it, and they all have it now. It extends to the entire property and business within their local jurisdiction.

In Patterson vs. Kentucky, 97 U. S., p. 505, Mr. Justice Harlan said:

> Hence the states may, by police regulations, protect their people against the introduction within their respective limits of infected merchandise. A bale of goods on which duties have or have not been paid, laden with infection, may be seized under health laws, and if it can not be purged of its poison, may be committed to the flames. So may the states by like regulations exclude from their midst not only convicts, paupers, idiots, lunatics and persons likely to become a public charge, but animals having contagious diseases.

Judge McLean, in the Passenger cases, 7 How., p. 400, said:

> In giving the commercial power to Congress the states did not part with that power of self-preservation which must be inherent in every organized community. They may guard against the introduction of anything which may corrupt the morals or endanger the health or lives of their citizens.

In the Passenger cases, 7 How., p. 414, Mr. Justice Swayne said:

> The states of the union may, in the exercise of their police powers, pass quarantine and health laws, interdicting vessels

1. For the extracts from decisions of the Supreme Court introduced the writer is indebted to a masterful argument on "Federal and State Powers as to Quarantine," delivered by Hon. Edgar H. Farrar of New Orleans, at a quarantine convention held in Mobile in February, 1898.

coming from foreign ports, or ports within the United States, from landing passengers and goods, prescribe the places and time for vessels to quarantine, and impose penalties on persons for violating the same; and . . . . such laws, though affecting commerce in its transit, are not regulations of commerce. . . . .

Feb. 25, 1799, Congress passed the following act:

The quarantine and other restraints established by the health laws of any state, respecting any vessel arriving in or bound to any port or district thereof, shall be duly observed by the officers of the customs revenue of the United States, by the masters and crews of the several revenue cutters, and by the military officers commanding any port or station on the sea coast; and all such officers of the United States shall faithfully aid in the execution of such quarantine and health laws, according to their respective powers, and within their respective precincts, and as they shall be directed from time to time by the Secretary of the Treasury.

The above extracts from decisions of the Supreme Court of the United States, to which many others of similar tenor might have been added, seem to prove beyond controversy that public health powers belong wholly to the states.

While regarding this principle as thoroughly established, the writer stands on record as having repeatedly expressed the opinion that certain public health powers should be conferred on the general government, the nature and scope of which will be discussed later on in this paper. It would seem that such a grant of power could not be conferred in any other way than by an amendment to the constitution.

We are now prepared to enter on the consideration of the second division of our theme, namely, how shall public health powers be exercised, or, in other words, how shall a public health system suited to our form of government be formulated and executed?

Ranking the public health system of a country as quite equal, if not superior, in importance to that of a judicial or military system, the answer to the question just propounded is worthy of close and critical study.

A categorical statement of the cardinal principles that should be embodied in a public health system for this country may be made as follows:

1. The system should conform closely to the spirit and genius of our government.

2. It should, as far as possible, recognize and respect the principles of local responsibility and of local self-government.

3. It should be co-extensive with the country, and susceptible of immediate enforcement whenever and wherever needed.

4. It should be based on a uniform, coherent and complete organization of the medical profession of the entire country.

5. Boards and bureaus of health should be composed of physicians only, and eligibility for positions in such bodies should depend on membership in the organized medical profession.

6. All medical health officials should be elected by the organized medical profession of the territory or district over which their several jurisdictions extend. All non-medical officials should receive appointment, either directly or indirectly, from the same source.

7. The system should be widely divorced from politics, and should be wholly independent of commercial influence.

8. It should be substantially uniform for municipalities, counties and states.

9. The first function of the system should be advisory; the final one, executive.

10. Economy of administration should be a distinguishing feature of the system.

Should any of these propositions be deemed vulnerable or impracticable, attack on them is invited, as the writer flatters himself they are susceptible of easy and successful defense. Before proceeding further, however, it might not be amiss to briefly comment on some of the propositions.

The first proposition affirms a truth the value of which can not be overestimated. The public health system of a monarchy and that of a democracy must, in some respects, radically differ. In a monarchy, the power needed to operate the system must be drawn from the king or ruler, and all health officials must receive their appointments from, and be responsible to, the same source; while in a democracy the power to operate the system must, in the last analysis, be drawn from the people; and all health officials—medical and non-medical—must, either directly or indirectly, be responsible to the people. That is, the public health systems of these two forms of government must be supplied with vitality and power from two opposite poles or sources.

The same principle applies, *mutatis mutandis*, to all modifications of these two forms of government.

If in the construction of a public health system this principle be violated, either tyranny, on the one hand, or anarchy, on the other, will, sooner or later, terminate the life of a system that fatally transgresses a fundamental law of jurisprudence. We may just as well transplant a tree by placing its branches in the soil and its roots in the air and expect it to grow and flourish and bear fruit as to expect that a public health system constructed to suit a monarchy will permanently live and prosper in this country. Should such a system become a permanent institution in this government it will be because the people have abandoned the faith of their fathers and turned their backs on the blood and treasure spilt and spent in purchasing rights they prized more than life itself.

The second proposition follows naturally and logically on the first, and simply reaffirms the doctrine of local self-government, a doctrine that has been so inbred in the blood and bone of our body politic as to become an integral part of its organic life.

The third proposition will be accepted on its mere statement.

The fourth will also, I hope, as it stands with relation to some of the propositions that follow as premise to corollary.

The soundness of the fifth and sixth propositions will not, I presume, be questioned by a body of medical men, but their practicability may be. An argument on this point will be offered a little later.

The seventh, eighth and tenth propositions will, I feel confident, be accepted without argument.

The ninth proposition may need some explanation. This will be given in another and more appropriate connection.

An effort will now be made to apply the principles just enunciated to the hypothetical construction of a public health system for this country, and in so doing use will be made of a diagram, with the hope that thereby the work of construction can be both shortened and rendered more complete and perspicuous. The same unit of construction will be adopted as that generally agreed on for the organization of the medical profession of the country, namely, the county.

The first problem, therefore, to be solved is to formulate a public health system for a county that will be sus-

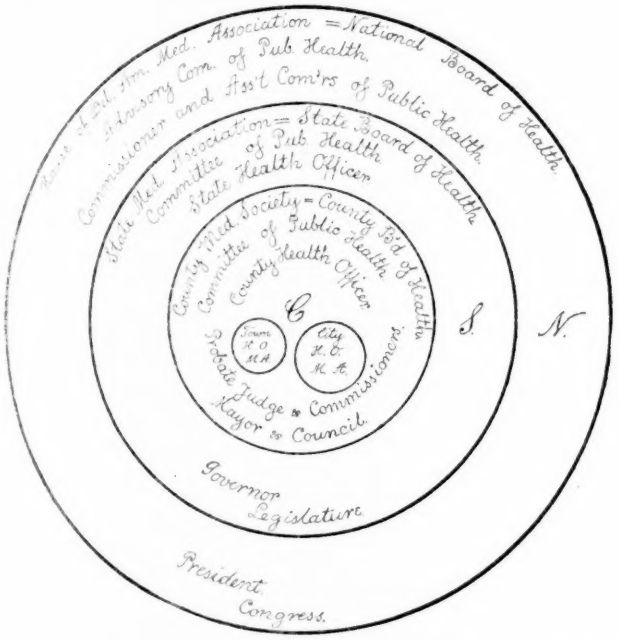
ceptible of application to all counties, wherever situated. Let the inner or smaller of the three concentric circles in the diagram (in the center of which is the letter C) represent the territory of a county, within which are two smaller circles, one representing an incorporated city, the other, an incorporated town. Within the circle C and within the smaller circles are enumerated, respectively, the authorities that should co-operate in the protection of the health of the people of a county and of all incorporated cities and towns therein.

For the county, it will be seen that these authorities are given as follows:

1. A county medical society, to membership in which all reputable and licensed physicians in the county, including those in incorporated cities and towns, should be eligible.

2. A committee of public health, composed of from five to ten of the most experienced and trustworthy members of the county medical society.

3. A county health officer, with an assistant for each beat, or for two or more beats, according to the size and population of the beats.



4. County authorities, that is, the probate judge and commissioners, or officials corresponding thereto.

For incorporated cities and towns the authorities are indicated on the diagram as follows:

1. City health officer (City H. O.).
2. Town health officer (Town H. O.).
3. Municipal authorities (M. A.).

A little analysis will show the wisdom of an arrangement of authorities such as that proposed, and also of the partition of power that will be made among them.

The organization of a county medical society, composed of the legal and reputable physicians of the county, is a basic principle of construction that must be laid in order to build up a public health system best adapted to our form of government.

Such an organization, aside from being the logical bedrock of the system, would materially promote the advancement of scientific and practical medicine, and by rapidly disseminating among the members the well-digested results of research and experience would render them more skillful and resourceful than they would otherwise be when called on to do battle against disease.

The county medical society should be by law constituted the board of health of the county, and in that capacity should be made the legal adviser of county and municipal authorities on all sanitary and public health questions, subject, however, to such supervision by the state board of health as might be provided for by law. Endowment with such advisory power would naturally stimulate the members of the county board of health to devote more or less special study and attention to sanitary and public health problems, and thus to better equip themselves for the responsible position accorded them.

Further, the meeting-hall of the board would furnish the best possible field for the discussion of all public health questions that might arise, and whatever conclusions might be reached each member would be disposed to accept them in good faith as the judgment of a majority of the members, rendered after full and fair discussion.

Without such a court of last resort differences of opinion as to the best methods of procedure would be continually arising, and in danger of disturbing the harmony, if not of destroying the perpetuity, of the system.

To endow a few physicians of a county with plenary public health powers, without allowing their colleagues any voice whatever in the discussion or direction of public health policies to be pursued under critical conditions, would inevitably lead to discord and disruption and possibly at times to unwise and injudicious action.

In times of peril or pestilence the combined sanitary wisdom of all of the members of the county board of health should be made available, which can not be done in any other way than by making the county medical society the county board of health.

Such a body could, in its regular meetings, discuss broad sanitary questions and indicate general lines of policy to be pursued under varying conditions, but, obviously, a county board of health thus constituted would be too large and unwieldy to meet emergencies, hence the necessity for the second one of the county health powers mentioned above, namely, a committee of public health.

As already stated, such a committee should be composed of from five to ten of the wisest and most experienced members of the county board of health. While large discretionary powers should be delegated to such a committee, it should be required to report its action from time to time to the parent body, when, after thorough review and discussion, such action could be either approved or disapproved. Such a committee would soon become trained in its work and could be very safely trusted to act for the best interests of all concerned.

Next in the list of authorities come the executive officers; that is, a county health officer, with assistants, for the county, and city and town health officers for the incorporated cities and towns.

While the general duties of these officers should be definitely fixed by law, yet in the performance of those duties they should be subject to the guidance and control of the committee of public health.

Lastly, the scope of authority of the county and municipal powers must be fixed, namely, that of the probate judge and commissioners and of the mayor and councilmen. These officials are supposed to be laymen, and, although unacquainted with disease and sanitary science, they must play an important part in executing a public health system suited to a democracy.

They are the legal custodians, respectively, of the treasuries of the counties and of any incorporated cities and towns therein. To them only should belong the

right of appropriating the people's money for public health purposes, except such sums as may have been by law specifically set aside for definite purposes and placed at the disposal of the medical health officials. The county and municipal authorities, being elected by, and, therefore, responsible to, the people, should properly be held accountable for the wise and judicious expenditure of the people's money for public health purposes, as for all other purposes. For violation of this obligation the people could punish said officials by displacing them from office, a check that could not under the proposed system be applied to the medical health officials, they being elected by the organized bodies of the medical profession, and not by the people.

As a public health system can not be executed without money, these county and municipal authorities must, from the treasuries they respectively control, furnish this indispensable lever; hence, as said, they occupy a very important relation with respect to the enforcement of a public health system.

According to the system thus briefly sketched for a county, it will be seen that the advisory and executive health officials, county, city and town, are to be physicians and representatives of the organized medical profession of the county, and that in the application of the teachings of sanitary science to the prevention of diseases they shall avail themselves of the resources of practically all the physicians of the county; that is, the medical health officials would be expected to furnish the expert knowledge necessary to execute a public health system for a county; while the county and municipal authorities would be expected to furnish the money necessary to execute such a system.

When the expenditure of money has been authorized by the county or municipal authorities, as the case may be, to the corresponding medical health officials should be accorded the right of directing the mode of expenditure. If expert knowledge is needed to point out what should be done to protect the public health, the same kind of knowledge is needed to direct how it should be done, else the expenditure of money for such purpose would often be injudicious and wasteful.

In the practical enforcement of the proposed system in a county, including incorporated cities and towns therein, the consecutive steps to be pursued by the coordinate authorities may be stated as follows:

1. The medical health officials of the county, or of the municipality, as the case may be, would advise what should be done.

2. The county and municipal authorities would decide as to whether or not money should be expended.

3. If money is to be expended the medical health officials would supervise the mode of expenditure; that is, the first function of said officials would be advisory, the final one executive.

A little reflection will show the wisdom of such division of authority and of such partition of power.

The members of the medical profession of a county are unquestionably more competent than others to judge of the personal and professional fitness of one another for filling public health positions; hence to no other electors could the selection of expert advisers be so safely and wisely entrusted as to the organized medical profession of the county.

For even stronger reasons the people should exercise the right of selecting the guardians of their treasuries. These guardians, although not physicians, are usually intelligent men, and, therefore, fully capable of deciding on the wisdom or not of expending money for public health purposes, when the reasons therefor are laid before them by physicians in whose knowledge of sanitary affairs and in whose interest in the welfare of the community they repose entire confidence.

Were medical health officials, elected in the way proposed, permitted to expend money for public health purposes (except definite sums set aside for specific uses) without the endorsement of officials elected by, and responsible to, the people, very soon the cry of unwise and lavish expenditures, however unfounded they might be, would overthrow and utterly destroy such a system.

The only way, therefore, of achieving the best results is to so frame a public health system as to place the selection of the medical officials in the hands of those most competent to name them, and at the same time to leave to the people, acting through the custodians of their treasuries, the right to decide whether or not they will provide the means for operating the system.

Objection might be offered to a system that is made dependent on such a contingency, but the answer is easy.

If the people will not provide the means for operating a public health system they will not enact a law making it mandatory on the custodians of their treasuries to provide the means; hence either alternative leads at last to the same test—the will of the people. But if a public health system be provided that works promptly, efficiently and economically, the people will give it their warm support, and such a contingency as that mentioned will not be apt to happen. However, should it occur through antagonism on the part of incumbent county or municipal authorities, popular clamor could soon bring the offending authorities to terms, and at the next election such officials could be retired from office. Any difficulty that might arise in this way would be infinitely less than would result from any other system that can be devised.

We are now prepared to enlarge the system so as to make it comprehend a state.

Let the next larger circle in the diagram, marked S, represent the territory of a state. In that circle are enumerated the powers that should enact and enforce public health laws for the state, to-wit:

1. A state medical association, which should be by law constituted the state board of health.

2. A state committee of public health, composed of ten or more members elected by the state board of health.

3. A state health officer, elected by the state board of health.

4. The governor, as the state executive officer.

5. The legislature, as the law-making power.

The arguments advanced in support of a similar division of public health authorities for a county apply with even more force to the above division of state authorities, and, therefore, need not be repeated here in detail. Some explanation, however, may not be out of place.

The state medical association, hereafter to be called the state board of health, should consist of an organic union of the county boards of health; that is, membership in a county board of health should, *ipso facto*, carry with it membership in the state board of health, conferring the right to attend all meetings, to introduce new measures, to participate in discussions, etc. The voting privilege, however, should be so regulated as to give to each county board of health its due share of strength.

A state board of health thus organized would furnish the medical men of the state a forum for the discussion of public health questions and a tribunal for their set-

tlement—so far as they are concerned—that would tend more than all else to cement the profession together, and to promote that harmony and unity of action without which a thoroughly efficient public health system suited to our form of government can not be maintained.

A state board of health organized as indicated above would for a stronger reason than that applied to a county board be too large and unwieldy to act quickly, or to meet sudden demands, hence the absolute necessity for the existence of the two next authorities mentioned above, namely, an advisory committee of public health and a state health officer. Both of these should be elected by, should act for, and should be responsible to, the parent body—the state board of health.

The state health officer should be clothed with executive authority, but should receive counsel and help from the advisory committee whenever he applies for it, or whenever the committee chooses to give it to him.

The relations between the several state officials should correspond with those outlined for county officials; that is, the function of the medical health officials should be to furnish the advisory and executive skill necessary to enforce a public health system, and that of the governor should be to authorize the expenditure of money for such enforcement, whenever in his judgment the facts represented and the recommendations submitted seem to justify such expenditure.

The function of the legislative authority should, of course, be to enact a code of sanitary laws for the state, in doing which it should freely avail itself of counsel from the state board of health.

Lastly, it remains to see how naturally and logically the system applied to counties and states can be applied to the nation, and made to comprehend certain well-defined public health powers.

Let the largest of the three circles in the diagram, marked N, represent the territory of the nation. Within that circle the following arrangement of health powers is proposed:

1. The House of Delegates of the American Medical Association as a national board of health, to which the health officer of each state should be one of the annual delegates from his state.

2. A commissioner of public health and two or more assistant commissioners, elected by the House of Delegates.

3. An advisory committee of public health consisting of the health officers of the several states.

4. The president, as a national executive officer.

5. Congress, as the national legislative power.

In order to determine what public health powers should be conferred on the national authorities just enumerated, let us assume that every incorporated city and town in the United States does all it should do for the protection of the health of its people; that every county in the United States likewise does all it should do; and, finally, that every state does all it should do, obviously, what remains undone, and what could be better done by all the states working together than by each state working separately, will then become clearly apparent.

Public health powers falling in either one of these categories should be delegated to the national authorities. A little analysis will show what these powers are.

In the first category, or what would remain wholly unprovided for, one function only can be mentioned. That function would be:

To provide an appellate tribunal for the adjudication of any conflicts that might arise between state boards.

In the second category, or what could be better done by all the states working together than by each state working separately, several functions may be mentioned:

1. To adjust the public health relations of this country with foreign countries, under which head would fall the ascertainment of the health conditions prevailing in said countries, maritime quarantine and disinfection, and the examination of immigrants to ascertain their fitness for admission.

2. To supervise interstate quarantine.

3. To determine what infectious and contagious diseases should be controlled by law, and to fix the periods of incubation of such diseases, thus establishing uniformity in these matters among the states.

4. To establish uniform tables of nosology, and to regulate the forms according to which vital and mortuary statistics should be collected by the states.

5. To provide for the inspection of foods and drugs.

6. To exercise supervision over the pollution of streams flowing from one state into another state.

7. To adopt uniform rules governing the transportation of the bodies of deceased persons from one state to another state.

8. To establish on a broad scale a laboratory for the study of the causation, course, pathology and prevention of diseases.

Under such grants of power the national officials should exercise their authority according to the same principle as that laid down for county and state officials; that is, the medical officials elected by the American Medical Association would furnish the expert knowledge and executive supervision necessary for national public health purposes, and the officials elected by the people—the president and Congress—would authorize the expenditure of money for such purposes.

Objection might be alleged against this principle of procedure on the ground that the time consumed for interviews and correspondence between the medical officials, on the one hand, and the corresponding municipal, county, state and national authorities, on the other, before action could be taken, would render the system inadequate for meeting emergencies. Such, however, need not be the case.

A city or county health officer could communicate very quickly with the officials whose coöperation would be needed; a state health officer would be required to consult the governor only, and the national commissioner, the president. Beside, great and pressing emergencies are not very frequent, and in the event of their occurrence provision could be made for permitting medical officials to incur necessary expense in meeting them until such time as all formalities could be complied with.

The coöperation among officials, from a municipality up to the nation, which the system demands, would very soon establish such mutual confidence as to guarantee the utmost harmony on all occasions.

SUMMARY.

The views expressed in this paper may be briefly summarized as follows:

1. Public health powers reside in the states.

2. Counties and municipalities derive all public health powers they exercise from their respective states, and, therefore, are subject to supervision, and, in the last analysis, to absolute control by said states.

3. For the common good, certain public health powers, already enumerated, should be conceded by the states to the nation, provided that the states are allowed

representation in selecting the executive officer who is to exercise these powers, and also representation on the advisory committee for such officer.

4. The selection of all advisory and executive health officials—county, state and national—should be delegated to the organized medical profession of these divisions of government, respectively.

5. Municipal, county, state and national officials, who have been elected by the people, respectively, must control the expenditure of money for public health purposes, except such sums as have been legally appropriated for specific purposes and placed at the disposal of the medical officials.

6. Each division of government, that is, each municipality, county, state and the nation, should provide the funds for executing public health measures ordered by its officials.

By agreement, however, the nation, a state and a county, or municipality, might concentrate their skill and money on any point at which a great menace to the public health exists.

Thus might be formulated and operated a homogeneous, logical and coherent public health system for this country—one whose foundations would be deeply laid in the soil of every county of the United States, whose superstructure would embrace the harmonious systems of all the states, and whose dome would culminate in a crown of conceded and beneficent national authority.

Think of the possibilities of such a system! Aside from securing the removal of unsanitary conditions, the collection of vital and mortuary statistics, the prevention or suppression of outbreaks of infectious diseases, reports on the topography and climatology of every county in the United States, the system could provide for a close and critical study of the domestic, sanitary, industrial, educational and racial conditions existing in every precinct—yea, every household—of the country.

From such data, the statistologist, demographist and sanitarian could evolve truths and principles easily susceptible of being applied to the elevation of the material, physical, mental and moral welfare of the people. Indeed, no better force than the public health officials of a county under the proposed system could be provided for taking the census at the decade periods, they being better acquainted with the people and with existing conditions than any appointees that could be named.

It goes without saying that the medical men of the counties, of the states and of the nation, true to the traditions of the profession, would offer to contribute, "without money and without price," their advisory skill toward the building up of such a system. For the executive health officials only, a large part or all of whose time would be occupied, need remuneration be provided. This should be done by the civil divisions corresponding with their respective jurisdictions.

In view of the "eternal fitness of things" and of the immense, valuable and unrequited services that would be rendered by the great body of the profession in executing such a system, the demand that boards and bureaus of health should consist of medical men only would certainly be deemed both modest and just.

That the proposed system can be built up does not admit of a doubt. If the medical men in every state will resolve that it shall be done, and will then proceed to educate the people in the merits of the system, the end will unquestionably be achieved.

DISCUSSION.

DR. H. A. MOODY, Mobile, Ala.—Every citizen likes to feel that whatever may be the governmental arrangements above him he has some means of controlling them, some way of correcting errors and some way of punishing any faults or acts on the part of the officers in charge, should they be contrary to the laws of the country or to the public good. It seems to me that any system which controls the health of a city or a state or a nation ought to be controlled by the citizens of that city, state or nation, and not by any one individual. I am very glad to be able to say that to-day we are under the charge, so to speak, of a gentleman against whom no one can say a word. He is a good man and a good officer, and everybody likes him; so no one can attribute to him, personally, any criticism we may make of the system itself. But we must look to the future as well as the present, and the day may come when we should regret very much that it is impossible for us to change a health officer located in any city or state, no matter how obnoxious he may be, or however he may neglect his duty. Here will be a man in control of our health affairs who is entirely unsatisfactory to us in every way, and yet we will not be able to help ourselves. I say, I am glad to refer to this matter now when conditions are so satisfactory, in order to call attention to our plight if at any time conditions should change for the worse.

A few days ago I met a gentleman from one of the Gulf states, who expressed himself as satisfied with the turning over of quarantine matters to the Marine-Hospital Service. I asked him how he would like to have foreign officers in control of the police of his state. "Oh," he said, "the doctor has appointed all of our old officers, and so it is all right." That is the way it is. If they will appoint officers who are familiar with and satisfactory to the people, and who know all the requirements of the neighborhood, it is all right. But a day may come when some one else will be in charge, and he may appoint officials who are obnoxious to the people, so much so that it may almost raise a riot in some of our states if they are placed under the control of such an agent.

So I think it not only desirable but necessary for this Association to study the subject and see if we can not have it arranged on a republican basis, and not on the basis of a dictatorship, as seems to be the case at present.

I am not sufficiently informed in quarantine matters to discuss other points raised by the paper and which struck me very forcibly; but, like every other American citizen, I want to have a voice in the appointment of the officers over me. At present I have no voice whatever, and it is only because the gentleman in charge is so acceptable personally, and so thoroughly in sympathy with us, that the system is satisfactory; but when the satisfactoriness of any system depends on the personality of the officer at the head of it, it is not a good system to live under.

DR. R. D. MURRAY, Key West, Fla.—I do not speak as a government officer, but as a "locked-in" man. I sympathize with those people who do not like to have officials forced on them, but I am sure I never went into a place that I did not leave it full of friends. I do not believe a locally acquainted man is always a proper man to control an epidemic. As to the head of the service being fit or unfit, you must remember that he is under the control of a civil officer of this government, who is appointed by the President and confirmed by the Senate, and you can reach him, if you want to, very readily.

Wherever I have been I am proud to say I have left the places full of friends of Murray. On the whole, I think it is better for a foreigner to come down and help people in distress than for a local man to be placed in charge. The local men, as a rule, have too many animosities, belong to too many churches, or have been black-balled in too many clubs. And you know the women cut a figure, gentlemen, at times.

DR. H. D. HOLTON, Brattleboro, Vt.—We have all given expression, especially in the American Public Health Association, to the necessity for a school for health officers, where all who are called to administer the sanitary affairs of a community could have an especial preparation for such duties. It would seem wiser that the health organizations of the Nation, state or municipality should be under the control of trained sanitarians rather than that of the National, state or local medical organization composed of medical men who have

received little, if any, special sanitary training. At the present time the medical men who have the sanitary affairs of states in their keeping are medical men who have acquired what sanitary knowledge they have since their graduation. The great difference in duties imposed on county officials by the constitutions and laws of the different states would make it impractical to have the sanitary affairs of a county administered by the officers of counties in some of the states.

I am in accord with the gentleman from Florida that better and more satisfactory work is accomplished with less friction by having a general officer outside of a particular locality pay an official visit to that particular bailiwick and direct the work. He is free from the prejudices and the fascinations to which the gentleman alluded, and he can and does do his duty without fear or favor.

Regarding a National health organization having any power in the sanitary work of a state, or any interstate authority, I should say that we all recognize that all power conferred on health officials is a police power. Congress and the National executive have the right to regulate interstate commerce, which is not only the interchange of commodities, but also of personal intercourse of the inhabitants of one state with those of another; therefore, if persons affected with any communicable disease in a given state attempts to exercise that part of interstate commerce which consists in personal business intercourse with persons or the transporting of infected goods into another state, it is clear to my mind that National authority has the right to say on what conditions and under what restrictions these transactions shall be conducted. May I ask the author of the paper in his final summing up to make plain the principle of a National health department which should be organized without this power?

DR. J. M. LINDSAY, Havana, Cuba—I will start out by saying that I have no bouquets to throw, and have no knife up my sleeve for any one. I have been working for six months, leaving Havana for the purpose, to see whether we could not get the same quarantine regulations in all the ports of the Gulf. I first came to the American Public Health Association, and got them to endorse a paper I was taking around on an educational tour of the south. The majority agreed with me. (I found only one or two who refused to sign the paper.) I assert that quarantine should be under only one head, but to-day we have it under two. We have it under the U. S. Public Health and Marine-Hospital Service and we have it under the trust known as the Galveston Conference, which we can not get at to save our lives, though we can get at the Marine-Hospital Service. That is under the government, and they do not dare not to answer any letter we write. If they did, we know how to get an answer—through our senator. I have a friend from my district who can always get my letters answered if I can not. I want to say, however, in this connection, that so far all my communications to the department have been answered.

Now, as to the different states: After leaving Florida we come to Dr. Sander's own state. We find there a peculiar condition. The state has nothing to do with the matter. A board is appointed; composed of physicians? No; part physicians and part commercial men, but controlled and run by two people.

I visited that state and asked them to give us the same quarantine regulations at Mobile that we had at Pensacola, Fla., and at Gulfport, Miss. They said: "It is a bitter pill to swallow. Florida and Mississippi are open, but we are tied down by that Galveston Conference and can not do anything. Beside, we do not know what Dr. Sanders, who has charge of all the counties outside of Mobile, will do." There is your condition in Alabama.

I next came to Louisiana, and I asked them to let me come before them and discuss the matter, so as to get them in line with the U. S. Public Health and Marine-Hospital Service, and give us the same regulations as in Mississippi and Florida. They said they could not call a meeting of the board to hear any such proposition, but at the next meeting, which would be at some time in the near future, or in four or five months, they would take the matter up. While I was in Chicago on business, I received a dispatch that they were going to call a meeting, but I could not get there in time.

One of the things I wanted them to do was to use the Marine-Hospital inspectors in those tropical ports where the United States had placed such officials, and not to appoint a man from Louisiana; because it was really not under the police power, and they had no right to collect $200 to pay these men in foreign ports. They would not agree to that. Then I asked them if they could not call a meeting of that conference and break loose from it, because I believed there was no law giving to Louisiana, Alabama and Texas the right to form a trust. I believe in state rights, but when the states seek to give up those rights to a trust, then I believe we had better go under a trust that we can reach through our senators and representatives, and not a trust that we can not touch at all. I believe to-day, instead of fighting fifteen or twenty years to form a new organization, we had better fall in line with the U. S. Public Health and Marine-Hospital Service and get them, as far as possible, to take charge of the entire matter, give us scientific laws, and not be afraid that the south will not support them, because the south will support any scientific quarantine regulations. They say they can not do anything because the people of the south are not educated on the subject. Well, I find that they are educated, and where they are at all deficient it is the fault of the men who know all about it, but who refuse to go out and explain, but seek, on the other hand, to retard the movement in every way.

We have not had a case of yellow fever in two years; still, this port and those of Alabama and Texas have decided that every piece of baggage, every passenger (I believe they use bichlorid of mercury; which is what we used to do when we were looking for fomites) must be disinfected at the port of departure and again at the port of entry. And they will never assume any of the responsibility, but will always try to put it on some one else.

Some six months ago I happened to be in Nashville, and I said to a friend of mine up there: "Judge, you have been losing golden opportunities in the south because of quarantine regulations. I am trying to get the people to give us better regulations in this regard, so we can get the trade of forty millions of people, and I believe it is time the people of the north took charge down there. These are Gulf ports simply because they happen to be on the Gulf geographically, but as a matter of fact they are the ports of the entire nation, and the forty million people in the north have a right to tell these men that they are entitled to protect themselves so far as their health is concerned, but they have no right to make every ship that comes in pay a bonus to get into American ports." He said: "Well, you are going to try to wake them up?" I said: "Yes, sir; that's what I am going to try to do." He said: "Well, I feel sorry for you." "Why?" "Because they will declare it unconstitutional. We in the south declare everything unconstitutional. We have had the shell long enough, and it is time now to change around, because we want the oyster."

To get into Florida and Mississippi costs nothing. To get into Alabama or Louisiana the ship must be disinfected at its expense. Now, I say that when they tell a ship, "You can not do business in this port unless you contribute so much a month to the pay of our inspectors," they go beyond their police powers and enter the National province. They should not be allowed to take that subsidy from the ships, and the sooner we get a new system the better—not such a one as Dr. Sanders proposes, because I tell you when you go up against that you won't have any regulations at all. I know if I had my choice to go up against the Marine Hospital or that trust, known as the Sanders' trust, I would take my chances with the United States every time.

DR. W. H. SANDERS, Montgomery, Ala.—The gentleman who has just taken his seat has indulged in details and personalities that had no connection whatever with my paper. He has set up his opinion on great constitutional questions against the consecutive opinions pronounced by the Supreme Court of the United States since its foundation by the government down to the present time; he has talked about state

rights and trusts and has connected me with what he calls the "Sanders' Trust." I decline the prominence he gives me as being at the head of a monopoly. I am simply the executive officer of the organized physicians of Alabama, selected by them, and I am removable by them at will.

DR. J. M. LINDSAY—I had reference to this trust which you are trying to form.

DR. SANDERS—I have simply proposed a scheme for forming and conducting a democratic system of public health, not one under a single man or a single corporation. The gentleman speaks of the "Galveston trust." I do not know anything of that, and therefore can say nothing of it. Without going into the details he injected into his remarks, and which have nothing whatever to do with the matter under discussion, I will remind him that the first division of the question under discussion is: Where, under our form of government, do public health powers reside?

I attempted to show, and believe I did show, by decisions of the Supreme Court, that they reside in the state governments and not in the general government.

DR. LINDSAY—Have they the right, under the police power, to place a man outside, as they do, to work in the foreign countries?

DR. SANDERS—By consent of those countries. The general government can not put a man there without consent.

DR. LINDSAY—I mean to hold up ships and make them pay; is that police power?

DR. SANDERS—When a ship arrives at the borders of a state the state can deal with it, under her police powers, as she thinks proper.

DR. LINDSAY—When she gets to that state?

DR. SANDERS—Yes, sir.

DR. LINDSAY—Not before?

DR. SANDERS—No, sir; neither can the general government nor the Marine-Hospital Service acting for it. If Cuba, for instance, allows the general government or the state of Alabama to place representatives in Havana to disinfect ships, it is merely a permission and not a right at all.

Now, Mr. Chairman, many positions have been taken that should be answered. Should all public health powers be concentrated in one service, the Marine-Hospital Service, for instance, then all diagnostic power must be conceded to the same service. The officials of that service must do our diagnosing for us. I undertake to say that within the past few years distinguished representatives of the Marine-Hospital Service have made conspicuous errors in diagnosis. If we surrender the public health power now possessed by the states we must also surrender the right to say whether an infectious disease is present or not. In 1897 a fever began to prevail on the Mississippi coast. A number of medical gentlemen, I among them, went there, and after a prolonged investigation decided the prevailing sickness to be yellow fever. The chief of the Marine-Hospital Service selected an ex-official of his service, one who had served in it a number of years, a Cuban by birth, who had grown up with yellow fever, and had attained sufficient prominence in the profession of this country to be filling the chair of pathology in the University of Pennsylvania (I allude to Dr. Guiteras), and sent him down to the Gulf coast to investigate and report. Dr. Guiteras examined into the disease and declared, despite the opinion already announced, that the disease was not yellow fever. I would have conceded in advance that no better man than Guiteras could have been chosen for the work. On a certain Monday morning the announcement went out unanimously from the medical men on the ground that the disease was yellow fever. Dr. Guiteras arrived the following Wednesday, and on Friday telegraphed the chief of the Marine-Hospital Service: "I have examined 29 cases, 25 are dengue, 4 doubtful." Not very long after that Dr. Guiteras accepted the diagnosis that had been made before he reached the scene.

Since then I have seen other members of the service make mistakes in diagnosis. If you surrender the right to control these matters, I repeat, that you must also surrender the right to say whether any infectious disease exists that needs control. That is a dangerous power to concede.

I can not accept the proposition that it is better to have some one come from a distance to regulate these matters. I have had six years' experience as a public health official in my state, and it has been an active one. I should have said that this scheme I have inadequately explained is based on the public health system that has prevailed in Alabama for twenty-five years. It is no visionary scheme, and can easily be projected into a National bureau. Everything proposed inside of that state line (indicating on the diagram) has been in existence in Alabama for twenty-five years.

DR. LINDSAY—What about Mobile?

DR. SANDERS—About ten years ago a number of the commercial men of Mobile went to the legislature, then in session, and, as a very powerful lobby, secured the passage of a special law creating the Quarantining Board of Mobile Bay, which is out of harmony with our system. It would require considerable detail to explain how this was brought about. We are biding our time, and probably by waiting we will see the true system prevail again at Mobile.

With the exception of the Quarantine Board of Mobile Bay, not a commercial man has served on any Alabama board of health for twenty-five years. The members of such boards are physicians, and in no other way can these matters be taken out of politics. Boards of health should be composed of physicians, and health officials should be selected by the organized physicians of the locality over which such officials are to preside. In Alabama the state or county authorities can decline to act on our advice, but if they do the responsibility rests on them. Our authority is merely advisory in the beginning, but if the state or county authorities authorize the expenditure of money, then our authority becomes executive. That is to say, our authority is at first advisory, but if money be appropriated it becomes executive. We have found the system to work admirably for twenty-five years, and we are anxious to see it propagated to other states, and also projected into a National bureau of public health that will correspond to our democratic form of government, and not with a monarchy.

DR. H. D. HOLTON, Brattleboro, Vt.—You said something about interference with interstate commerce. I don't quite understand that.

DR. SANDERS—If the counties do all they should to protect the health within their borders and the states all they should to protect it within their borders, nothing remains for the Nation to do but regulate interstate and foreign quarantine. That is all that remains undone for the Nation to do. It is constitutional for the National government to aid the states in the enforcement of public health laws. The National Bureau of Public Health that formerly existed was founded on that idea. The National government can aid any city or state in trying to control an epidemic, and can appropriate money for that purpose, and send a representative to aid in the struggle. Suppose an epidemic should appear in this city, and the Nation should send here a representative, a sanitarian fully equipped and competent to aid in dealing with the situation, and authorized to aid financially, do you doubt that the health officer of the city of New Orleans and the health officer of the state of Louisiana would accord to that representative of the Nation due consideration and to his opinions due weight?

DR. HOLTON—Suppose the National health officer insisted on regulating things in his own way, would he have any right to do that?

DR. SANDERS—Under the scheme outlined three officials would be on the ground, the city, the state and the National officials, two of whom would be a majority and decide the policy to be pursued. To give the National representative absolute control would require an amendment to the constitution, and, in my opinion, would be very unwise.

Further, the expenses of a campaign against an outbreak of sickness could be equally divided between the city or county, as the case might be, the state and the National government. That would offer a premium on early and prompt action on the part of the county or city. The local officials would know that

by acting promptly they would get the help of the state and of the Nation, which would stimulate them to promptness of action and not to ignore conditions under the idea that by shutting their eyes to them they could get rid of them.

Dr. Lindsay—Where is that ultimate advisory power? In the American Medical Association?

Dr. Sanders—Yes, sir; the American Medical Association should have advisory power for the Nation, for the President, and for Congress; advisory power in the first instance, and then, by suitable laws, it could be invested with certain executive power. Let the Nation be guided in public health matters by its sanitarians, its physicians. When advice from such a source should be laid fully before the Nation, as is done in the state of Alabama, the Nation could either accept or reject it; but if the Nation should act on such advice, then let the American Medical Association, through a National bureau of commissioners of public health, execute its own advice. That is the policy in Alabama.

Dr. Lindsay—That is democratic?

Dr. Sanders—Yes, sir.

Dr. Lindsay—For the Nation to give over this right to the American Medical Association?

Dr. Sanders—The Nation is competent to delegate authority to the American Medical Association, or to any class of men it chooses. I think that is a fundamental principle which can not be successfully controverted. The Nation is competent to delegate its power to any body of men; and if it chooses to delegate it to men selected by the American Medical Association, who can dispute the right?

Before taking my seat I will say that in 1897 yellow fever prevailed in several places in Alabama before its presence was discovered at Ocean Springs, Miss., its original seat. Since then not a case has occurred in Alabama, although the states alongside, Florida on the one side and Mississippi and Louisiana on the other, were overrun, more or less, with yellow fever in 1898, 1899, and, to some extent, in 1900. Not only so, Alabama protected her people and her commerce at a remarkably small cost. For three years the total expense of conducting the state quarantine in Alabama was in round numbers $20,000, and for two of those years the state was entirely protected. My information is that for the same three years Mississippi expended more than $100,000 and got no protection either year. The other states mentioned doubtless expended large sums for the same years and likewise were overrun with the fever. Is not that simple statement of fact a strong endorsement of the Alabama system?

The United States Public Health and Marine-Hospital Service seems to be gradually but certainly usurping the public health powers of the states, which the Supreme Court has said many times is unconstitutional. In addition to being unconstitutional, I believe such usurpation unwise and impracticable. The officials of that service acquire their positions by undergoing examination, and are not chosen either by the people or by their colleagues of the organized profession, consequently they sustain absolutely no representative relation either to the people or to the profession. The chief of that service, who dictates the public-health policy to be pursued by his service, need not be a member of any local medical organization or of this Association, and therefore is entirely independent of any advice or recommendations that might proceed from this body.

Here are assembled representative medical men from the states, and it seems a fair proposition that they should have a representative commissioner of public health of their own selection, through whom they could advise the Nation on public health questions, and whom they could displace from office on his refusal to obey their recommendations.

Venesection and Saline Infusion in Heatstroke.—It is reported by a contemporary that in two cases of heatstroke in Cincinnati twelve ounces of blood were withdrawn, and replaced by an equal amount of physiologic salt solution, with excellent results. Temperature was reduced, convulsions ceased, and the patients fell into refreshing sleep within an hour.—*Med. Age.*

ONE THOUSAND CASES IN STUDENTS' OUTDOOR OBSTETRIC PRACTICE.

REPORT OF FIRST SERIES IN THE OUTDOOR OBSTETRIC DEPARTMENT OF THE UNIVERSITY COLLEGE OF MEDICINE.

JOHN F. WINN, M.D.

Superintendent and Obstetrician-in-Charge of Obstetric Clinics; Lecturer on Obstetrics in University College of Medicine; Obstetrician to Virginia Hospital.

RICHMOND, VA.

I have the pleasure of submitting my report of the first series of 1,000 cases in the outdoor obstetric department of the University College of Medicine for the period of (nearly) eight years, ending Oct. 23, 1902. To be strictly accurate, a service of seventy-six months is represented, the two stations not being provided with regular attendants during four of the college vacations.

Of course, the average number of patients treated annually increases year by year, as the service becomes better known. As far as I know, this work is the first attempt on the part of any medical school in the southern states to conduct a systematic and regularly organized free service for lying-in women at their own homes. Each office or station is centrally located in a laboring district, and fitted up for the residence of three students who respond to obstetric calls only.

It is befitting to add that the successful results of the undertaking are to be attributed, in a large measure, to the hearty co-operation of the students and to their uniform courtesy and professional dignity in the performance of their duties.

The armamentarium of the attendants at each of these two obstetric stations consists of a leatherette telescope or satchel about twenty-two inches long, ten inches wide and eight inches deep, containing the following:[1]

Three agate wash basins.	Boric acid.
Towels.	Chloroform.
Green soap.	Ergotol.
Hand brushes.	Fluid extract ergot.
Scissors.	Croton oil.
Linen bobbin tape.	Strychnia tablets.
Sterile gauze.	Chloral hydrate solution.
Absorbent cotton.	Fountain syringe.
Bichlorid tablets.	Catheter.
Lysol.	Perineal pads.

SIMPLE TECHNIC.

With the unsanitary environments usually encountered, it must, of course, be remembered that anything approaching a complete aseptic technic is impossible; yet the greater necessity for cleanliness is impressed on the minds of the students, and all attendants constantly endeavor to observe, as rigidly as circumstances will admit, the principles of asepsis in reference to vaginal examinations. In doing this no claim is made for any great array of antiseptic or aseptic paraphernalia. On the contrary, the aim is to reduce everything to the simplest possible system of disinfection and asepsis. While the students are not limited as to the number of vaginal examinations, they are encouraged and advised to practice abdominal palpation in all cases if time permits, not only for verification of diagnosis, but for the purpose of reducing to a minimum the danger of infection by vaginal touch.

1. Students provide themselves with hypodermic syringes and clinical thermometers. The satchel is not furnished with forceps or other instruments, for the reason that all operations are performed by me; and if such instruments were so accessible, the temptation to use them in my absence might lead to disastrous results. The absence of instruments from the above list is thus explained. A valuable acquisition to this satchel will be found in the form of a large copper pan, like one I have been using for a long time in my private obstetric bag. Its dimensions will correspond with the inside of the telescope, and it will afford a more capacious and ready sterilizer in these homes, and will also serve a useful purpose when asphyxiated infants need to be placed in hot water.

Before making the antiseptic solutions the basins are prepared as follows: They are thoroughly scrubbed with soap and water. One basin is then made the container for boiling the brushes, scissors and tape. Another serves as a cover while the boiling is going on. Before this is completed the third basin is substituted for the second. When all have been sterilized, one basin is used for the bichlorid, another for lysol solution. The third serves as the wash basin. The hands and forearms of each attendant are scrubbed not less than five minutes with hot water and green soap, the water being changed at least once. After the hands have been immersed in bichlorid solution (1/1000) for five minutes, the inner surface of the patient's thighs and the whole of the external genitalia as far as the introitus vaginæ receive the same soap and hot water scrubbing with a soft brush or a gauze sponge, followed by a bichlorid bath. Over the vulva is now laid a pad of gauze or absorbent cotton wrung out of lysol solution (one teaspoonful to one pint).

The patient having been prepared, the hands are again scrubbed and immersed in bichlorid and, finally, in lysol solution before they are considered ready for vaginal touch. Vaselin is never employed as a lubricant. The examining finger is carried directly from the lysol solution into the vagina. The lysol has always proven to be a most efficient lubricant.

More than ordinary care is observed in the manner of making a vaginal examination. The patient is brought to the edge of the bed in the dorsal posture. All bed covering is turned back by an assistant, the genital organs being thus left in full view. While the knees are held apart by another, the labia are carefully and widely separated by the thumb and forefinger of one hand in such a manner that when the index and middle fingers of the other hand are introduced they come in contact with the walls of the vagina only. Just here I will state that the antepartum vaginal douche has never been used in this service. Observation and experience had convinced me that those cases in private practice which did not receive the douche always had a better puerperium than those which did; hence, without knowing why, and even before Krönig's announcement that there were no pus-producing bacteria in the vagina of a pregnant woman, vaginal douches were deemed unnecessary. The effort is made to keep the hands, and especially the examining hand, sterile, but, as a further safeguard against infection, the rule is to repeat the entire process of hand and genital disinfection in all its details every time a vaginal examination is made.

STATISTICAL SUMMARY.

As regards the statistical part of this report, there have been attended:

White cases	129
Colored cases	871
Total	1,000

Representing:

Full-term deliveries	893
Abortions, immature and premature deliveries	107
Vertex presentations	953
Breech presentations	38
Face presentations	2
Brow presentation	1
Shoulder presentations	6
Prolapsed hand	3
Prolapsed funis	3
Imprisoned placenta (not adherent)	14
Eclampsia	10
Postpartum hemorrhage	6
Placenta previa:	
At twenty-seventh week (marginal)	2
At twenty-eighth week (central)	1
At twenty-eighth week (partial)	3
At thirty-eighth week (marginal)	1
	7
Podalic version by internal method	11
Low forceps	18
Median forceps	4
High forceps with axis-traction (living child)	1
High forceps with axis-traction (asphyxiated child, died in a few hours)	1
High forceps with axis-traction (dead-born child)	2
Intra-uterine tamponade	2
Induction of labor at thirty-sixth week; rachitic pelvis (living child)	1
Curettement for inevitable abortion	5
Curettement for retained membranes	18
Perineorrhaphy	12
Extensive laceration of cervix above vaginal junction	1
Twin births	14
Ophthalmia neonatorum (no prophylactic treatment received)	2
Visits	4,421
Septic cases	4
Deaths from all causes	5

In studying the relation of morbidity and mortality to the number of cases, it must be borne in mind that the patients represented, for the most part, the extremely destitute portion of the white and black population, and, consequently, that the work was prosecuted amidst the most unfavorable and unhygienic surroundings.[2] The questions arise, why do not all of these people suffer from the worst forms of sepsis, and why is the death rate greatly lower than that recorded in private practice, and amid even ideal sanitary environments? I confess my inability to account fully for the immunity which this class of lying-in women possesses.

MORTALITY.

In view of the facts mentioned, it is gratifying to find that, out of the 1,000 cases, there have been but five deaths, and, since this portion of the report is significant and especially important, I have deemed it best to give the details connected with each case.

The first death, that of a colored multipara, occurred Aug. 10, 1898. I did not see this case myself, being engaged with a delivery in my private practice, but from the history given by the third-year student in attendance and confirmed by two of our then recent graduates, Dr. M. E. Nuckols and the late Dr. J. Travis Taylor, who saw the case at my request, the woman had had a postpartum hemorrhage. She had reacted well, however, and was believed to be out of danger; but, on attempting to walk across the room (supposedly for water) while alone for a few moments, she fell on the floor and died instantly. I do not like the term "heart failure," but if such is ever admissible, I think it would be quite appropriate for the cause of death in this case.

The second death resulted from eclampsia. A young colored primipara had traveled eighty miles by rail less than thirty-two hours preceding the outset of labor. This was two weeks before her expected confinement. The attendants at the Seventeenth-street station were summoned a short time before the birth of the child. Five hours after delivery they were called back on account of the first convulsion. I saw the case from this time on.

2. The following, one among many similar instances that might be cited, will serve as an illustration of this point: The patient, a colored v-para, occupied the only bed in a small, dark, ill-smelling room. The day was cold. A small coal fire was in a broken-down grate. Around this fire stood four small children. In this room the whole family lived, cooked and slept. There were just two chairs and one dirty kitchen table in the room. Three plates and two cups and saucers were scattered on this table. On the floor, in one corner of the room, was a washtub half full of dirty soapsuds, left from the washing of clothes the week before, and which emitted a horrible stench. The patient asked for a drink of water, whereupon the oldest girl of the family advanced towards the washtub and, with cup in hand, proceeded to dip from a wooden water bucket which was floating around in the foul-smelling mass of soapsuds. On being reminded of the possible contamination of this drinking water, the patient remarked, "O! that's all right." It is needless to say that some of the neighbors were depended on to furnish hot water for the case in hand. The mattress on which the woman lay was exceedingly dirty. An old quilt, equally as black and greasy, served as a coverlid. This woman was up attending to her household duties at the end of a week, with no ill effects.

Notwithstanding heroic treatment, both sedative and eliminative, and, in addition, the constant services of a trained nurse, the patient died ten hours later.

The third death resulted from general septic peritonitis, supervening on rupture of a gonorrheal pus tube, as revealed by the autopsy. This was a colored primipara with a true conjugate of just three inches. I sent the patient to the Virginia Hospital and effected a delivery with forceps, the labor being too far advanced to render version safe. The child, already weak, died during delivery. The patient did well for four days, when peritonitis developed, ending in death three days later. Being anxious to know the cause of this infection, an autopsy was made, with the assistance of Drs. H. M. Taylor and Virginius Harrison, who happened to be in the hospital at the time, and, instead of finding traumatism of the lower segment of the uterus, as was suspected, we found a ruptured pus tube on the right. Inquiry of the patient's mother brought out the statement that she had been treated for gonorrhea two years before.

The fourth death occurred in a multipara at the eighth month, greatly reduced in flesh and strength by tuberculosis. She lost more than the usual amount of blood at delivery, and, though the uterus responded quickly to friction and ergot, the patient proved to be unequal to the shock of this hemorrhage in her already weakened condition. Despite active treatment for shock, the patient died ten hours later.

The fifth death resulted directly from apoplexy, induced by puerperal convulsions. The history of this case is unique and is worthy of record. A young, robust primipara, eight months pregnant, complained, while seated at the breakfast table, of severe headache, numbness of the left arm and leg and also soreness of the tongue. This was about 7 o'clock. She had walked down a winding stairway to the room below. While eating she had a severe convulsion which lasted several minutes. In a quarter of an hour she had another convulsion, more severe than the one preceding and soon passed into a state of coma. The attendants at the Seventeenth-street station saw her for the first time three hours later. I saw the case a few moments afterward. It was soon noticed that the recurring convulsions were confined entirely to the right side. Venesection, followed by saline transfusion directly into the vein, was resorted to with seeming benefit for a short time. The hot pack was also used to aid elimination, but I wish to emphasize one procedure which was pushed vigorously and which gave promise of good results. I refer to prolonged high irrigation of the colon, carried to the point of inducing a free flow of bile. Not less than thirty gallons of saline solution first, and plain hot water later, were used by the return flow rectal tube. This treatment has been used almost to the exclusion of all other eliminating methods in the Paris Maternity, with the result of reducing the mortality from 27 per cent. to 6 per cent. in comparative series of fifty cases, and I am encouraged to give it a further trial. Of course, this case is not a fair test; neither would I be justified in drawing conclusions from one patient; yet I am inclined to believe that, had there not been this cerebral hemorrhage, the eclamptic symptoms would have been held in abeyance. In reverting to the history of this case the patient unquestionably had convulsions during the night, which were responsible for the hemorrhage in the arm and leg center.

While there have been five deaths, it will be seen that not one of these resulted from outside or preventable infection.

It is equally gratifying to know that there have been only four cases of sepsis, and two of these had been attended by midwives before coming under the care of this service. Of the other two cases, one has already been referred to—the case of ruptured pus tube resulting in general peritonitis and death. The fourth and last case of sepsis was a white multipara who had a most extensive laceration of the cervix, extending above the vaginal junction. A great quantity of blood had been lost and she was in a bad condition to resist infection. She was taken to the Virginia Hospital thirty-six hours after delivery, when the symptoms were strongly suggestive of general peritonitis. A careful examination now revealed the cervical injury. Her condition for several days was critical, owing to the large pelvic abscess, which developed under the right broad ligament. On leaving the hospital at the end of six weeks, an inspection, with the aid of Dr. H. Ward Randolph, resident physician, showed that the vaginal portion of this tear had nearly cicatrized. There was yet some discharge which communicated by a sinus with the abscess. The uterus was firmly fixed and drawn to that side. She was sent home with the promise of operative intervention at a subsequent period.

COMPARATIVE MORTALITY RATES.

I have already emphasized the fact that this service was outdoor work (only seven cases receiving hospital treatment) for the special reason that I wish just here to introduce a comparative study of the mortality statistics of some of the oldest and best known obstetric clinics abroad, in some of which the service is more evenly apportioned between indoor and outdoor cases.

For example: Our own mortality is exactly .005 (one-half of 1 per cent.), while that of the obstetric clinic at Prague is reported to be .0085, the School of Baudelocque at Paris .0066 and the University Frauen Klinik at Berlin .0193. Compared with the Society of the Lying-In Hospital of New York City, whose prestige covers more than 100 years, I find reported for their outdoor department 2,723 labors in one year, with ten deaths, or a mortality rate of nearly .0037.

A MODIFIED CREDE METHOD.

In addition to the precautions taken against infection during the first and second stages of labor already referred to, a very important factor in this reduction of morbidity and mortality is believed to be the scrupulous care bestowed on the genital tract during the third stage of labor, not only in guarding it against the invasion of pathogenic organisms, but also in observing the time for and the manner of delivering the placenta. So thoroughly am I convinced that the hasty or precipitate resort to Credé's method is largely responsible for the incomplete delivery of the placenta and its membranes and for the sepsis frequently dependent thereon that it has been the uniform rule in this service to wait for Nature's signal for expelling the after-birth before adopting any method to excite uterine contraction.

Before describing the procedure observed in this clinic, I wish to say that the placing of one hand over the uterus as a sentinel, immediately after the child is born, must not be confounded with the grasp of the uterus in the Credé method. To be explicit: immediately on the birth of the child, one hand is gently placed over the uterus, especial care being taken neither to make friction nor to excite contractions so long as the uterus remains firm. This hand is regarded as a sentinel for Nature's signal that the placenta is separated, this signal being a slight rising of the fundus while it is yet

firm, giving to the hand the sensation of being pushed up, as pointed out by Pinard and Schroeder some years ago. The discovery made by the foregoing authorities was not generally accepted at first, but is now being recognized. This lifting up of the uterus may occur in much less time than the average—"twenty minutes"—or it may be delayed thirty minutes or longer. As soon as this condition is observed, the uterus is grasped firmly, for the first time, with one or both hands and pressed downward in the axis of the superior strait. If, after waiting three-quarters of an hour, there is still no sign of placental separation, as described above, the typical Credé method is resorted to without further delay.

When it comes to the delivery of the membranes, the practice in this clinic is again a slight divergence from the general custom. Instead of twisting them into a rope, as recommended by many, we have found that the possibility of leaving behind a portion of the membranes is greatly lessened by simply waiting a few minutes to allow them to trail out, provided the grasp on the uterus has been lessened to admit of that normal relaxation which follows uterine contraction. In general terms, all attendants act on the principle that every placenta, at full term, has its own time to separate, and that it is better to wait until that time arrives before resorting to artificial stimulation of the uterus. By the rigid observance of this rule, it has been a rare occurrence in the past few years to have even a "retained" placenta, and, as for an adherent placenta, such a condition has not been met with at all.

Broadly speaking, the students in this clinic are taught to regard the genital tract absolutely as a *noli-me-tangere* after the child is born, and experience has demonstrated the fact that, just in proportion as it is so regarded will the puerperium be marked by fewer deviations from the normal.

CONCLUSIONS.

Among the deductions from this report are believed to be the following:

1. The results in this service are confirmatory of Krönig's statement that the vagina of a pregnant woman is free from pus-producing bacteria.

2. Thorough and continuous disinfection of hands and external genitalia are the chief safeguards against infection.

3. The unhygienic surroundings in the homes of the poorer classes must be considered as minor factors in the causation of sepsis. They become operative only when scrupulous care is not observed with regard to vaginal examinations.

4. Not only is the puerperal morbidity and mortality among outdoor clinics greatly below that in private practice (the mortality rate in this clinic being one-half of 1 per cent.), but it would appear that this class of patients is endowed with powers of resistance not found in the higher walks of life.

5. Nature has her own time for separating and expelling the placenta as indicated by a signal easy of recognition.

6. Any method designed to excite uterine contraction before Nature indicates that the placenta is ready to be cast off must be regarded as precipitate, and not in accord with natural processes.

7. Just in proportion as the genital tract is regarded absolutely as a *noli-me-tangere* after the child is born, will the puerperium be marked by fewer deviations from the normal.

Special Article.

THE PURIFICATION OF WATER SUPPLIES BY SLOW SAND FILTRATION.

I.

GENERAL PRINCIPLES AND METHODS.

During the last fifty years the individual or family water supply has been gradually supplanted by the public water supply in nearly all civilized countries. In the United States the number of waterworks has increased from 83 in 1850 to 598 in 1880 and 3,196 in 1896. This fundamental change in the manner of procuring household drinking water has brought in its train many new problems. In several respects the substitution of public for private control is distinctly in the direction of sanitary betterment. The abandonment of the shallow well, for example, has been of unmixed benefit even in communities of moderate size where pollution of the soil is not extreme. It has been noticed that in a general way the introduction of public water supplies is coincident with a remarkable decline in typhoid fever death-rates (Fig. 1).

Although it is thus true that a public water supply is better than the average private supply, it is evident also that the public supply is not without its own peculiar danger. The peril to the whole community is in a

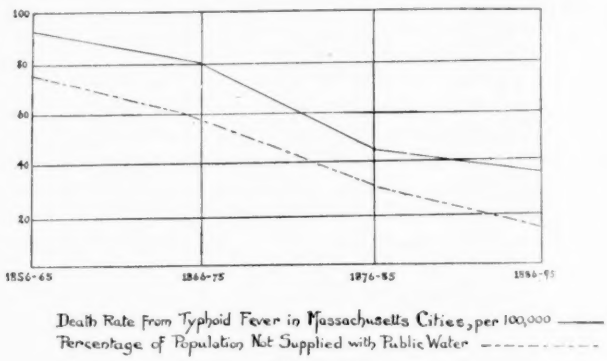


Figure 1.
(From the Twenty-eighth Annual Report of the State Board of Health of Massachusetts, 1896, p. 781.)

sense greatly enhanced by the introduction of a public supply, since if contamination of the general supply ever occurs a much larger number of persons will be infected than under conditions where each family is supplied from an independent source. The proper methods of controlling and safeguarding municipal water sources have become, therefore, a matter of moment to the whole community.

The largest and most satisfactory city water supplies in this country and in Europe are obtained by one of three methods. One of these consists in the impounding or damming of small streams that drain uninhabited or but sparsely inhabited areas. This method usually involves the construction of reservoirs with a large storage capacity, a procedure possessing a notable advantage in that the sanitary quality of water is known to improve during storage. The majority of the satisfactory water supplies of large cities in the United States are of this character, the New York and Boston supplies being well-known examples. This method is applicable especially where the topography of the country is suitable for storage. In a flat region or a densely populated one, supplies of this character are rarely available.

A second method of obtaining a water supply is by utilizing the so-called ground water; that is, water which

has apparently become partially or thoroughly purified by percolation through layers of soil. The "spring" waters and the "deep well" and "artesian" waters belong to this class. Such water is usually clear and palatable, although often "hard"; that is to say, containing in solution certain mineral salts which cause the formation of "boiler scale," lead to an excessive consumption of soap, and are otherwise economically undesirable. On the sanitary side, the quality of ground waters is frequently unexceptionable, although lately they have come to be looked on with less favor than formerly. Several of the largest European city supplies are of ground water origin. The city of Paris, for example, is chiefly supplied with ground water brought from several distant places at great expense, and, although the present supply is somewhat inadequate, a large portion of it is of excellent quality. Many other European cities, such as Vienna, Budapest, Brussels, Leipsic, Cologne, Munich and others are similarly supplied. In the United States no city of the first rank is at present wholly supplied with ground water, although many cities and towns of small size have successfully introduced water of this character. A very large amount of water is demanded by most American municipalities, and the limitations placed by geologic conditions on both the quality and quantity of ground water restrict the use of this source of supply to certain localities.

A third method of obtaining a wholesome water supply consists in treating surface waters, such as the water of rivers or large lakes, by the process of sand filtration. This method of obtaining a good supply is very largely used at the present time in England and on the continent of Europe, especially in Germany and Holland. It is estimated that a population of nearly twenty-five millions in European cities is now furnished with water purified in this way. The list of cities using sand filters includes Berlin, Hamburg, Breslau, London, Amsterdam, Antwerp and St. Petersburg.

In the United States many cities are so situated that neither the first nor the second method of obtaining an ample water-supply is available, and in nearly all instances such cities have up to the present contented themselves with the use of unfiltered surface water from the nearest lake or river. The possible opportunities of contamination to which a surface water in a populous district is exposed are well known and need hardly be considered in detail. It is only too common in many parts of the United States to allow objectionable drainage to pass into a stream from which some town or city derives its water supply. Rivers have been allowed to become open sewers, lakes gigantic cesspools. The danger from this source is generally recognized. In Germany the use of surface waters for public supply without filtration is altogether prohibited. Since it seems to be true that by far the larger number of city dwellers in the United States must continue to depend on some kind of surface water for a supply, it is important to consider what the method of purification of surface water by sand filtration really implies, under what conditions a sand filter may be installed and effectively operated, and what results may be reasonably hoped for in the way of benefit to the public health.

The first sand filter of which any record exists was built in 1829 for the Chelsea Water Company in London. The primary object of this filter was to clarify the water, although the sanitary advantages seem to have been in part recognized. In 1855 the filtration of all the surface waters supplied to London was made compulsory. Soon after this time sand filters were constructed at various places on the continent of Europe, at first from the designs and under the supervision of English engineers. The Berlin filter plant was built in 1856 by an English company and was purchased by the city in 1873. In late years the installation of filters has become very general throughout northern Europe.

The accumulated experience of the last fifty years in the construction and operation of filtration systems has led to the working out of a fairly uniform method of procedure. The unit filter consists of a water-tight masonry tank or reservoir, with a surface area ranging in practice from about one-half of an acre to nearly two acres. On the floor of these reservoirs a series of perforated pipes or loose underdrains is laid, over which are deposited layers of crushed stone and gravel of increasing fineness, and on the gravel is laid finally the bed of sand that constitutes the efficient body of the filter. This layer of sand usually varies from about two feet to four feet in depth. In Germany the law stipulates that the minimum thickness of the sand layer shall not be permitted to fall below twelve inches.

In nearly all instances where filter beds are used it has been found highly advantageous to provide a settling basin through which the raw water shall pass on its way to the filter. Many of the surface waters that are used for public supplies are so turbid that their direct application to the sand bed would cause rapid clogging, and preliminary sedimentation is, hence, most, desirable.

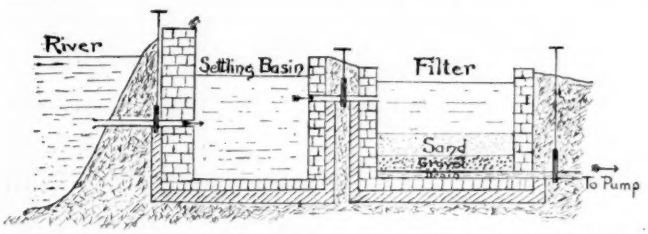


Fig. 2.—Diagram showing general plan of filter plant. (Adapted from Hazen.)

The accompanying diagram (Fig. 2) illustrates the usual relations between the source of the raw water, the sedimentation basin and the filter bed proper.

OPEN AND COVERED FILTER BEDS.

The question of providing covers or roofs for filter beds in cold climates is one that always demands special consideration. The great additional cost of the covers renders their construction inadvisable on economic grounds except where they are absolutely required by the climatic conditions. Under certain circumstances roofing of the filters is imperative. In many parts of Germany it has been found necessary to provide covers for filters which were originally constructed on the open system. The great obstacle to the use of open filters consists in the formation of ice which interferes with the effective operation of the filter, and not only increases the difficulty of cleaning the surface of the sand in winter, but materially lessens the hygienic efficacy of the filter. In Berlin an epidemic of typhoid fever occurring in 1889 was traced to the injurious effect of cold weather on the working of the filter, and this event led to the abandonment of open filters in that city. In the city of Altona, a suburb of Hamburg, a slight epidemic of cholera appeared in the winter of 1893 which was likewise attributed with excellent reason to the disturbance of the filters by ice. The various degrees of difficulty experienced from the formation of ice in those cities possessing an open filter system have led to the estimate that the use of covers is necessary in all locali-

ties where the average January temperature is below 32 F. On this basis, the area in the United States within which covered filters would be necessary lies north of a line passing through Philadelphia, Pittsburg, Cincinnati and St. Louis. The use of covered filters possesses the additional advantage that, owing to the inability of algæ to grow in the dark, the clogging of the filter is diminished and the frequency and expense of cleaning thereby reduced.

RATE OF FILTRATION.

It is evident that the higher the rate of filtration, the smaller is the filtering area needed to supply a given quantity of water. The maintenance of a high rate therefore diminishes proportionately the cost of construction of the filter-plant. In practice it is not found possible to exceed a certain maximum rate without impairing the quality of the filtered water, since if the filter is forced beyond its capacity, efficient purification is not achieved and the aim of the whole system is defeated. The rate that can be successfully used in any given locality depends primarily on the character of the water to be treated. A turbid and polluted water can not be filtered rapidly with as satisfactory results as water from a clearer and purer source. The rate maintained for most European works averages between two and three million gallons daily per acre of filtering surface. The filter beds at Hamburg, where the highly polluted water of the Elbe river is treated, are operated at the rate of about 1,600,000 gallons daily per acre. At Zurich, where a clear and relatively pure lake water is used, the very high rate of over 7,000,000 gallons is successfully maintained. A rate of 3,000,000 to 4,000,000 gallons would probably be a very satisfactory rate for the class of surface waters that would most frequently be dealt with by filtration in this country. In adjusting the rate it is important to maintain a fairly uniform head, since sudden changes are likely to produce disturbances in the upper sand layers, and thereby reduce the efficiency of the filter.

Nearly all the sand filters in actual use are operated on the principle of continuous application of the water, and a body of water of substantially uniform depth is allowed to stand constantly over the surface of the sand. At a few places, however, the system of intermittent application of water is practiced, but it possesses no material advantage over the continuous process and is somewhat more troublesome to operate. The city of Chemnitz, Germany, is one of the best-known instances where intermittent filtration is used for a municipal water supply.

OPERATION OF FILTERS.

In the life of every sand filter the time comes sooner or later when the filter is so clogged that a satisfactory quantity of water no longer passes. The filter must then be cleaned and put again into a condition for effective operation. This is accomplished by draining off the water from the surface of the filter and scraping away a thin layer of sand. The scraping is done by workmen with wide shovels and the sand is usually removed in barrows to some spot where it can be carefully washed and saved for subsequent replacement. A layer varying from .5 of an inch to slightly over one inch is ordinarily removed at a single scraping. The frequency with which scraping has to be practiced depends chiefly on the quality of the water, a turbid water naturally producing clogging more rapidly than water that contains little suspended matter. The rate of filtration and the size of sand grain are also important factors in determining the frequency of scrapings. Twenty-five days is perhaps a fair average of the life of a filter between scrapings. In well-managed works the interval should rarely fall below ten days, and if the preliminary sedimentation is effective, it may well range much higher than this. When the depth of the sand layer has become reduced by successive scrapings to the minimum thickness deemed desirable (never less than 12 inches), the filter is remade, generally with the sand which has been previously removed in scraping, and which after washing is now restored to it. Since a certain proportion of a given filtering area is always out of service while the cleaning process is going on, it is necessary in constructing a filter to plan for a somewhat greater area than would suffice if continuous operation of the whole surface were feasible.

COST OF FILTERS.

The cost of constructing filters depends largely on local conditions. If a very turbid water, for example, is to be treated, an unusually large filtering area must be provided, and the cost of construction is proportionately increased. In Berlin, covered filters of about .6 acre each have been built for approximately $70,000 per acre. One engineering authority estimates that the cost of carefully constructed covered filters in Europe averages about $68,000 per acre of filtering surface. The total cost of the Hamburg plant, one of the most recent of European filtering systems, was nearly $2,280,000. This system includes thirty-four acres of filtering surface, and was designed to supply a population of about 600,000. The data that exist concerning the cost of sand filters in the United States indicate that, owing to the use of more economical designs and to the employment of concrete, the cost of construction should be considerably lower than for European filters. Within the last few years several American filter plants of moderate size and with covered beds have been built at an expense of about $45,000 per acre.

COST OF OPERATION.

The chief sources of outlay for operation are due to the necessity for scraping the sand beds, washing the sand and for supervising the efficiency of the plant. For this latter purpose all well-equipped filter plants include a bacteriologic laboratory, or in some way make provision for testing the quality of the filtered water. The cost of scraping and handling the sand ordinarily ranges from 80 cents to $1.20 per million gallons of filtered water. If the conditions are such as to require special labor for the removal of ice, the total operating expense may be greatly increased. At Lawrence, Mass., where in spite of the cold climate open filters are in use, the cost of removing ice ranged as high in one year as $2.00 per million gallons. Engineering authorities have estimated that, in general, the total cost of filtration, including depreciation and interest on the expense of construction, as well as operating expenses, averages about $7.00 to $9.00 per million gallons of filtered water.

EFFICIENCY OF FILTRATION.

Since the main object of sand filtration is to secure a wholesome water, it is necessary for the engineers in charge of the waterworks to be guided by carefully-drawn regulations concerning maintenance of a safe rate, the quality of the effluent, and other factors of importance. The German Imperial Board of Health has formulated rules requiring that each sand filter shall be tested daily by bacterial methods, that the rate of filtration shall not exceed one hundred mil-

limeters per hour (about 2,600,000 gallons daily per acre), and that the filtered water shall be admitted to the mains only when it contains less than one hundred bacteria per cubic centimeter, the number being determined by a specified method. It has not been found difficult to secure a high bacterial efficiency under these standards. In many cases raw river waters containing several thousands or even tens of thousands of bacteria per c.c. can be made to yield an effluent containing a relatively insignificant number of microbes. At Berlin, for example, during one series of observations the number of bacteria in the water applied to the filters ranged from 4,400 to 7,980, and the effluent during the same period contained from 22 to 52. In general, over 99 per cent. of the bacteria are removed by sand filtration. The experiment of applying particular and easily recognizable kinds of bacteria to the filter beds and testing at frequent intervals for their appearance in the effluent has shown that the actual bacterial efficiency is even greater than the above figures indicate, and that the number of bacteria found in an ordinary effluent does not represent the number actually passing through the filters, but is swollen by a certain proportion of microbes washed out of the underdrains or by accidental contamination during collection. It is a significant fact that in well-conducted filter works, while the number of bacteria in the applied water may vary greatly from hour to hour and from day to day, the number in the effluent remains fairly constant.

A more conclusive measure of efficiency than the percentage of removal of bacteria is afforded by the prevalence of typhoid fever in communities supplied respectively with filtered and unfiltered water. The experience of the city of Hamburg is one of the most convincing instances of this nature. The average death rate from typhoid fever from 1887-1891 was 47.2. A modern sand filter was installed and put in operation in May, 1893, with the result that the typhoid fever death rate for the five years 1894-1898 fell[1] to 7.2. It is true, without exception, that whenever a city has changed from the use of a raw surface water to a sand-filtered water, the typhoid fever death rate has at once responded with a marked and permanent decline.

The relative exemption from typhoid fever possessed by cities that are supplied with sand-filtered water as compared with those using raw surface water is shown by a comparison of the typhoid fever death rate in certain European cities using sand filters with the rate in certain American cities, some of which are provided with a surface water deemed to be fairly well guarded and free from the grosser forms of pollution: Berlin, 0.50; London,[2] 1.40; Hamburg, 0.90; Rotterdam, 0.20; Boston, 2.79; New York, 1.81; Baltimore, 4.50; St. Louis, 4.70.

(To be continued.)

1. The cholera year 1892, and the year 1893, in which the filter was not operative during the whole period, are omitted from the comparison.

2. About five-sixths of the total supply is filtered.

Coffee-Drinking.—Notwithstanding the scare advertisements of health substitutes for coffee, says the *American Journal of Pharmacy*, there is no cause for apprehending danger to the race at large from coffee-drinking. After generations of almost universal coffee-drinkers, our own times see men of gigantic intellect in all realms of activity, our athletes are able to make sudden bursts of effort equal to any in history, and our soldiers aquit themselves manfully in fatiguing campaigns in torrid climes. The life-insurance companies, constantly warring against all that lessens longevity or conduces to abnormal organs, nerves and actions, seem content to accept the use of coffee as one of the ordinary elements of every-day life.

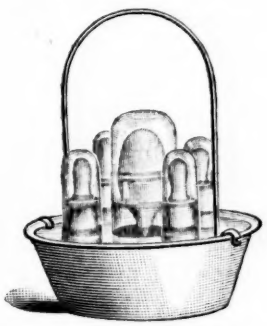
New Appliance.

AN OPHTHALMIC TREATMENT OUTFIT.*

WM. CAMPBELL POSEY, M.D.
PHILADELPHIA.

This appliance is presented to the Section with a view to facilitating and further perfecting the details of treatment of ophthalmic cases. It consists of a series of bottles, contained in a nickel-plated caster-like holder, which in its turn rests in an enameled pan. The bottles are five in number; one, with a capacity of four ounces, holds a boracic acid or other mild antiseptic solution for the purpose of flushing the eye; the other four are one-ounce bottles and contain such drugs as may be required. Each bottle is provided with a pipette, which serves as an accurately fitting stopper, and also with a glass cover, to further prevent the entrance of germs or dust into the bottle or dropper.

By this arrangement there is secured for each patient in hospital service a complete set of bottles for his individual



use, thereby avoiding possible infection from other patients or the instillation into his eyes of drugs intended for another. The outfit may be employed in operations and will be found convenient in the treatment of cases in their own homes, either after operations or where there is inflammation requiring protracted treatment and the employment of a number of drugs. The pan is intended to hold ice when ice compresses are to be applied, or as a vessel in which to heat the water, when hot compresses are desired. The pan is attached to the caster-like holder by a double spring, and although the outfit is intended to rest on the table at the bedside, it can be carried about if occasion demands. The various parts of the outfit can be readily sterilized and may be used in successive cases.

Clinical Report.

CASE OF SKIN GRAFTING.

JAMES FREDERIC CLARKE, M.D.
Lecturer on Hygiene, State University of Iowa, Department of Medicine,
FAIRFIELD, IOWA.

A few weeks ago a patient presented with contraction of the upper eyelid from a burn. The cilia was drawn high on the forehead. An incision was made 2 mm. above the cilia, the lid was dissected down and the upper and lower lids stitched together. The exposed surface was at once covered with one piece of skin taken from the forearm of the patient. The piece removed from the forearm was an oval 1¾ by 3 inches in size. This was held in place by 6 or 8 sutures, covered with gutta-percha tissue and a cotton compress. On removing the dressings on the fifth day the skin graft was pink in color and sensitive to the touch. It had a well-established circulation and sensation in this short time. The complete success of the transfer of this large piece of skin was quite a satisfaction, seemingly so much better than sliding skin from the temple, which would have increased the scars.

* Exhibited before the Section on Ophthalmology of the American Medical Association at the Fifty-fourth Annual Session

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NEPHROTOXINS.

The existence and experimental production of specific cell poisons, the cytotoxins or cytolysins of which we hear so much nowadays, have been the means of greatly stimulating the interest in cellular reactions. Many enthusiastic investigators believed that in this field would be found the quick solution of some of the obscure problems in the genesis of disease. Of the cytotoxins for the cells of solid organs nephrotoxins, or special poisons for the cells of the kidney, have been studied most extensively. The renal cells seemed to respond readily to normal and to artificially-produced toxins, and the resulting functional and morphologic changes presented such analogy to the changes in some forms of nephritis that it appeared to many as if we had come into possession of the key that would unlock the mysteries connected with the etiology and genesis of nephritis and the accompanying disturbances of the circulatory apparatus, as well as uremia.

It is as yet too early to decide definitely to what extent the new method of investigation will give final solution of these complex problems. The conservative observer might be tempted to say somewhat sneeringly that so far not much else has been accomplished than to substitute new names for the old and that the ultimate mechanism of nephritis is still unknown. A fair consideration of recent work in this field, however, can not but lead to the conviction that actual progress in renal pathology is making as the direct result of the study of nephrotoxins. A brief review of the experimental study of nephrotoxins by Pearce[1] will serve to make this point clear.

It has been claimed by several European investigators that the ligation of one ureter or of the vessels of one kidney leads to degenerative changes in the opposite kidney due to the action of toxic substances which have been called autonephrolysins or autonephrotoxins. Pearce made careful experiments to test this conclusion with the result that no other changes were established in the undisturbed kidney than would follow simple nephrectomy, thus demonstrating that the products of dissolution of one kidney have no direct, specific harmful action on the fellow kidney. Pearce, furthermore, controverts the claim that "isonephrotoxins" are easily obtainable. By isonephrotoxin is meant a poison for the kidneys of animals of the same species as the one furnishing the poisonous serum. Such serum has been claimed to develop after unilateral ligation of the ureter or the renal vessels as well as after repeated injection of, let us say, rabbit's kidney into rabbits. In Pearce's experiments it was found that the injection of pure, untreated, normal rabbit's serum causes as great changes as the injection of supposedly isonephrotoxic serum. Pearce succeeded in producing a strong nephrotoxin by immunization of rabbit's with dog's kidney. In order to eliminate so far as possible the simultaneous production of a toxin for the red corpuscles of the dog (hemolysin) it was necessary to use organs well washed to free them from blood. Now, in previous experiments with heteronephrotoxic serum the action of this hemolysin has not been excluded. The action of the hemolysin consists in laking red blood corpuscles in such numbers as to cause hemoglobinuria, and this is in itself sufficient to cause changes in the kidneys of the animal used. Pearce found that even after the use of washed kidneys for injection there developed hemolytic properties in the serum of the animals injected, but in much less degree than in the animals treated with unwashed organs. Heteronephrotoxic serum thus produced causes albuminuria, cast excretion, degeneration in the epithelium and glomeruli, but no noticeable interstitial changes. Chronic renal lesions could not be established by the repeated injections of toxic serum, and there were no immediate changes in the blood pressure. Pearce also found that hepatotoxic serum, produced by injecting rabbits with dog's washed liver, causes changes in the kidneys of dogs, thus bringing into prominence a correlative action of several kinds of serum which has been noted also by previous observers. In the course of his work he had occasion to note that in dogs spontaneous nephritis is not at all infrequent, and the serum of nephritic dogs is toxic for the renal cells of normal dogs.

We see that the work of Dr. Pearce, to a large extent, consists in disproval of extravagant claims of previous workers and in eliminating manifest sources of error. This somewhat unpleasant task is often necessary in order to clear the field for actual progress. There remain, principally as the result of Pearce's own work, some important well-established facts, namely, that the renal cells of the dog are altered in function and form by the injection of serum of rabbits treated with dog's kidney; that toxic serums are correlative in their action, indicating that various cells are similar in chemical structure, and, finally, that the serum of nephritic dogs is nephrotoxic for normal dogs. The question of the source and nature of this nephrotoxic substance furnishes interesting problems for future work. We believe that the study of somatogenic cytotoxins is on a firmer basis as the result of the investigations of Dr. Pearce, but it is evident that the explanation of chronic nephritis, for instance, is still far off.

1. Univ. of Penn. Med. Bulletin, 1903, xvi, 217-234.

MANUAL TRAINING FOR GIRLS.

In an address[1] to the graduating class of Johns Hopkins Hospital Training School for Nurses, Isabel

1. Bulletin of Johns Hopkins Hosp., September, 1903.

Hampton Robb, formerly superintendent of the school, has discussed some of the defects in trained nurses. She insists that "inefficiency, superficiality and lack of thoroughness belong not to the graduate nurse alone, but are the common property of modern woman, and belong to the average American household." Out of 175 applicants for admission to our training school for nurses only forty were considered worthy. The deficiency of women in the practical knowledge of the affairs of the house is strongly emphasized. An effort is now being made in many of the more progressive training schools for nurses, both at home and abroad, to overcome, by means of a preliminary course, this deficiency as regards the care of the household and the properties of food. Desirable as this is, it is only an effort to accomplish for the few what should be a part of the education of every girl in the public schools. No one knows better than the physician how inadequate are the ideas of women in general regarding the proper preparation of foods, and how impossible it is to obtain proper food for the sick in a great many households. Improperly prepared and unwholesome food is a most fruitful cause of disordered digestion, and careful observers have even ascribed much of the use of alcoholics by the poorer classes to this cause.

While there is a tendency to give manual training an important place in the education of boys, is it not possible that manual training for girls is of equal importance? In the case of girls this training would naturally have to do with the subjects which would not only develop manual dexterity, but which would also serve to stimulate intelligent interest in the things with which they would have to deal in the home. Is there any reason why a girl should not be as much instructed and interested in the making of a dress, a stocking or a loaf of bread, as her brother is in the construction of a box or a machine? In this way the use of the needle, the cooking and preparation of foods, cleanliness and the care of the house could be made matters of interest instead of drudgery, and the school girl would introduce the elements of domestic hygiene into many homes into which they could not be forced by health officers and all sorts of legislation.

If such instruction were given to girls in the public schools, it would perhaps help to dispel the idea which has unfortunately become so prominent in the minds of young women that "housework" is mere drudgery and calls for only an inferior degree of intelligence. Anything is worth while which will teach girls that the problems of the home call for the exercise of the highest degrees of intelligence, training and education, and that the pleasures and satisfaction of doing household duties intelligently in the end can not be compared with the routine work of the shop and the factory.

We wish that the excellent address of Mrs. Robb could be read by every one who has to do with the education of girls. Many an intelligent and conscientious mother would find in it ideas and stimulus that would benefit directly the household and all its members, especially the women, and in the end serve to reanimate the interests of woman in her special work.

RECENT WORK ON THE BACTERICIDAL ACTION OF SERUM OF ANIMALS SUSCEPTIBLE TO ANTHRAX.

It is a well-established fact that normal human serum and the serums of many of the lower animals possess *in vitro* strongly bactericidal properties for many pathogenic bacteria, and yet both human beings and animals are often susceptible to infection with the organisms which are killed by their serums in test-tube experiments. As examples of such cases may be mentioned typhoid fever, dysentery and anthrax. One c.c. of normal human serum in a test tube will kill thousands of typhoid bacilli or dysentery bacilli and yet there are times when these organisms gain entrance into the body, multiply and produce their respective disease. Rabbits are very susceptible to infection with anthrax bacilli in spite of the fact that their blood serum is capable of killing thousands of these organisms when added to a small quantity of the serum in a test tube. On the other hand, it has been found that dogs are relatively immune, and chickens are almost absolutely immune from anthrax, though their extravascular blood serums possess no bactericidal properties for *B. anthracis*.

The serum of a rabbit which has died of anthrax has not lost its bacteriolytic serum-complement, and it is still capable of killing anthrax bacilli, showing that the infection can not be explained on the score of a loss of the complement in the serum. It is evident, therefore, that there is here a sharp disagreement between the facts found by test-tube experiments and those observed in the living animal body; this goes to show that the results obtained by test-tube experiments may be very far from representing what takes place in the animal body, because the conditions are so widely different.

Test-tube experiments, however, are at present one of the best means we have for attacking such problems as immunity, and the aim of the experimenter must always be to approach, in the test tube, the conditions found in the animal body. A decided step in this direction was recently taken by Bail and Pettersson[1] in their work on anthrax. Normal rabbit's serum, as indicated above, is strongly bactericidal for *B. anthracis*, when the latter is added to a small quantity of the serum in a test tube. The experimenters mentioned have found that the results are very different if instead of clear serum they had used serum to which had been added finely emulsified fresh organs (such as liver, kidney or muscle) from the rabbit which yielded the serum. Serum thus treated with organ-suspensions is deprived of its germicidal property, even if the tissue cells and fragments are centrifugalized out before the bacteria are added. The addition to the serum of a few drops of extract from these organs, in physiologic salt solu-

1. Centralbl. f. Bakt., 1903, xxxiv, 445.

tion, has a similar effect. It is interesting to note that these extracts in themselves have no bactericidal properties. Heated beef serum and dog's serum which are normally not bactericidal for anthrax bacilli are rendered so by treating them with fresh bloodless organs of rabbits. The normal beef and dog's serum may also be activated by the addition of traces of a rabbit's serum which has been inactivated by the admixture of organ suspensions.

It may be objected that the conditions here were very different from those found in the body because the experimenters were working with dead cells, even if they were removed from the body only two hours previously. It is nevertheless a decided advance toward approximating, in the test tube, the conditions found in the body. We believe that the observations of Bail and Pettersson constitute a step in advance toward the explanation of the apparently paradoxic phenomena noted above in regard to certain infections. These observations show once more the wonderful complexity of the phenomena of infection and immunity.

LEGISLATION AGAINST THE SALE OF COCAIN.

A bill has been introduced in the legislature of Alabama regulating the practice of pharmacists, establishing a state laboratory at the capital where all applicants for license will be examined. A special provision—and this is why we call attention to the matter—throws additional restrictions on the sale of cocain, the use of which has become so great an evil among the negroes of the South. Druggists will be prohibited, if the law is passed, from selling cocain except on the prescription of a physician, and the physician must, if called on, give good reasons for prescribing the drug. While this last measure seems a little extreme, it is possible that there may be physicians who would prescribe dangerous drugs without good reason, simply to meet the appetite of patients, and such may very well come under the provisions of the law.

MASSACHUSETTS "ALLOPATHS."

The Massachusetts Bureau of Labor Statistics has been taking a census of persons employed in "gainful" occupations. Whether or not the majority of physicians are engaged in "gainful" occupations they are included in these statistics. The *Boston Medical and Surgical Journal*,[1] among other comments, has the following:

> The number of physicians and physicians and surgeons who were willing to answer to the nick-name of "allopaths," was 1,432, of whom 56 were females. There were also 385 who answered to the name of "homeopaths," 83 eclectics, 77 specialists, and 2,213 who were not specified. Of the 4,188 persons employed in the profession of medicine, 486 were females.

It may not be altogether amiss to call the attention of the Massachusetts State Medical Society to the fact that while it has 2,607 members, according to our contemporary, there are said to be only 2,290 physicians in the state who are not sectarians, i. e., eclectics, homeopaths or "allopaths." Is not an "allopath" as much a sectarian as a homeopath? Seriously speaking, is it not time that the physician who is not a sectarian disregarded the nicknames given him by others and was satisfied to be just a plain physician? In this case an ignorant census-taker may have classed a physician as an "allopath" in spite of the physician's clear statement of his status, and much to his dismay on seeing the published report, but one such occurrence should put him on his guard. Let it be eternally understood that we are not "allopaths."

1. Sept. 17, 1903.

SAN FRANCISCO'S MAYOR AND BOARD OF HEALTH.

The report of the San Francisco Board of Health to the Hon. E. E. Schmitz, the mayor, is interesting reading. The reporting to the mayor was evidently purely perfunctory, and it seems also from a statement in the *Occidental Medical Times*, in which the report appears, that its publication in regular channels was denied. This is not to be wondered at, considering the fact that it contains the strongest kind of indictment of the honorable official to whom it is made, and that without any circumlocution or evasion whatever. The mayor is practically shown up as a falsifier and his various offenses against good morals and sanitation are thoroughly brought to light in language the reverse of complimentary. It is a curious thing that politicians who are generally supposed to be wary and far-seeing (though this latter is perhaps open to question) deliberately go to work to make history in which they appear in the most unfavorable light.

THE ORIGINATOR OF THE STOMACH TUBE.

We have briefly noticed in our Current Literature Department[1] an article by Friedenwald in the *Johns Hopkins Hospital Bulletin*, calling attention to the fact that the discovery of the stomach tube should be properly credited to one of our early American physicians, Dr. P. S. Physick, and not to Jukes and Bush, the English practitioners, to whom the honor of its invention has been assigned. It appears clear from this publication that Dr. Physick had employed the method for years when he published his first article on the subject in the *Eclectic Repertory*, Vol. III, p. 110, October, 1812, under the title of "An Account of a New Mode of Extracting the Poisonous Substances from the Stomach." In a later issue of the same journal Dr. Physick makes a correction to do justice to Dr. Alexander Monro, Jr., of Edinburgh, to whom he magnanimously surrenders the credit of the invention because the latter had mentioned its possibility in a thesis published in 1797, to which Dr. Physick's attention had been called since the publication of his article. The fact is, however, as shown by the article, Dr. Monro never utilized the suggestion, and Dr. Physick conceived the idea independently and had tubes made for the purpose as early as 1803, and in his lectures to students, as shown by several communications from former students, was in the habit of recommending the method at that early date. In those days the medical and scientific world did not look to America for important inventions, and it was easy for the English inventors to get the honor as against Dr. Physick. Credit was given to the

1. Page 879, abstract 43.

former, though little attention seems to have been paid to the matter. Dr Friedenwald's article does justice to this early American pioneer of medicine.

PROFESSOR SHERRINGTON'S VISIT.

At the opening of the new medical buildings of the University of Toronto on Thursday of this week, the address of the occasion was delivered by Prof. Charles Scott Sherrington of the University College of Liverpool. The new buildings in Toronto, beside being admirably adapted for the teaching of the medical sciences in a modern way, have been especially constructed and outfitted for the prosecution of original research. It is peculiarly fitting, therefore, that the distinguished director of the Thompson Yates Laboratories, who is England's greatest research physiologist, should have been chosen to make the formal address at the opening ceremonies. Modern physiologists are roughly divisible into two groups, one approaching the problems of physiology from the viewpoint of medicine and interesting itself, therefore, chiefly in the physiology of vertebrates; the other, from the viewpoint of general biology, physics and chemistry, more concerned perhaps with the simpler forms of life as met among the invertebrates. Both groups have in them representatives of the highest order of productive scholarship. To the former of the two groups Professor Sherrington belongs, though his researches and his publications show that he is not unsympathetic with the work of members of the other group. Professor Sherrington has enriched knowledge in every field of physiology in which he has worked, but his most striking services perhaps are those he has rendered to the physiology of the nervous system. His studies of the spinal nerves and of the segmental relations and especially his researches into the functions of the cerebrum of the vertebrates which stand nearest to man, have given him a fame that is world wide. We understand that Professor Sherrington is to visit some of the medical centers of the United States before he returns to England. We can assure him of a most cordial welcome in American physiologic laboratories, and we may perhaps hope that when he returns to Liverpool he may favor us with some impressions of American medicine as seen through an English physiologist's eye.

THE EYE IN NEURASTHENIA.

While the eye symptoms of neurasthenia are well known to many neurologists and ophthalmic specialists, it is possible that their true relation to the general condition is often overlooked. This is probably the more likely to be the case when there exists an actual defect of refraction which when detected is credited with the whole trouble. In a recent paper[1] Gradle calls attention to these facts and emphasizes the importance of attention to still other general systemic disorders that may reveal themselves most prominently in symptoms referred to ocular defects or accent such defects when they exist to a slight extent. These symptoms frequently involve more than merely the eyes, headaches, dizziness, etc., and are not uncommon. The most frequent of the underlying conditions he finds is anemia, while a general neurotic tendency, inherited or acquired, unhealthy environment, lack of exercise and other debilitating influences are hardly less important. Intestinal derangements may also play their part, and when any of these conditions coexist with a slight optic error, the unpleasant possibilities of the latter all come to the fore, sometimes to a distressing extent. Even with perfect emmetropia, intense asthenopic distress may result from pronounced anemia or intestinal autointoxication. Gradle deprecates, therefore, the tendency to treat these conditions by ordering weak glasses without due attention to the general condition, which may alone suffice to give relief. While he considers here only cases without muscular insufficiencies and expresses his doubt whether muscular anomalies that can only be demonstrated by suppressing binocular vision by prisms, etc., can cause asthenopia, it is almost impossible to avoid the suggestion that some of the troubles attributed to muscular eye-strain may be also due to such general conditions, associated it may be with latent refractive anomalies, or it may be, with latent muscular weakness, of itself incapable of causing the trouble under normal health conditions. Psychic influences, as Gradle points out, may have like effects, either through over-attention to the eyes or by exaggerating the effects of some slight and transient injury or inflammation. In these cases the hysterical character can be suspected after exclusion of other conditions and the possibility of suggestive therapy is indicated. It may succeed, but many cases are difficult to affect in this way. It is probable that closer attention to the systemic causes of ocular symptoms is needed not only on the part of the general practitioner, but sometimes possibly on the part of the ophthalmologist.

1. Arch. of Ophth., July.

Medical News.

ALABAMA.

Personal.—Dr. Felix A. Gillespie, Hanceville, has been obliged to leave his work and go to Texas on account of his health.

Appropriation for Medical College.—The house of representatives has passed the bill appropriating $5,000 annually for four years to aid in the repairs and extensions of the buildings and the equipment of the medical department of the University of Alabama, Mobile.

Cocain Sale.—In the bill endorsed by the Alabama State Pharmaceutical Association, there are provisions prohibiting druggists from selling cocain except on physician's prescriptions, providing that the physician, if called on, shall show reason for prescribing the drug.

Neckties and Water.—A colored man, calling himself "Dr." S. M. Miller of Boston, who has been claiming to cure all diseases by selling the patient a necktie and "throwing in" a bottle of alleged medicine. has been arrested on complaint of the Lawrence County Medical Board, and despite his plea that the bottles contained nothing but water, was sentenced to pay a fine of $50 and to be imprisoned for six months, for practicing medicine without license.

CALIFORNIA.

Verdict Against Hospital.—A judgment for $350 against the French Hospital, San Francisco, was rendered, September 21, in the damage suit for $2,450 brought by Charles Pala, who claimed to have been unnecessarily burned by a hot-water bag while a patient at the hospital.

Epidemic at McCloud.—The investigation instituted by the State Board of Health regarding the epidemic of typhoid fever at McCloud has disclosed the facts that milk cans from a dairy in the neighborhood were washed in water from a stream

contaminated by sewage, and found to contain the typhoid bacillus.

The Law and the Doctors.—Luigi Gardini and G. B. Gerino, San Francisco, have been arrested, charged with practicing medicine without license.——Samuel R. Chamley, San Francisco, the cancer "specialist" whose license to practice was recently revoked by the state board, has begun an action against the board in the Superior Court, to have the revocation declared void, contending that the statute of Aug. 1, 1901, under which the board acted, is unconstitutional.

Personal.—Dr. Hubert N. Rowell, Berkeley, was kicked in the side by his racing mare, fracturing three ribs.——Dr. Robert F. Winchester, local surgeon for the Southern Pacific Railway at Santa Barbara, has resigned.——Dr. Beverly S. Nourse, Sacramento, has been appointed physician to the State Penitentiary, Folsom, vice Dr. A. B. Plant, resigned.——Dr. and Mrs. Dudley W. Stewart, Los Angeles, celebrated their fortieth wedding anniversary, September 9.——Dr. A. M. Smith has been appointed surgeon for the Southern Pacific Railway at Merced, vice Dr. William A. Whitlock, resigned.

CONNECTICUT.

Winsted Hospital Gets Bequest.—By the terms of the will of the late Salmon Swift the entire estate is devised to the Litchfield County Hospital, Winsted. The estate is appraised at from $5,000 to $10,000.

Infectious Diseases.—During August 6 cases of smallpox were reported, 80 of measles, 107 of scarlet fever, 1 of cerebrospinal fever, 89 of diphtheria. 43 of whooping cough, 170 of typhoid fever, and 15 of tuberculosis. A decided increase was noted in typhoid fever, the August average for the five preceding years having been 150.

August Deaths.—During August 1395 deaths were reported, equivalent to an annual mortality of 17.8 per 1,000. Of this number, 496, or 35.5 per cent., were due to infectious diseases, including diarrhea. Consumption caused 113 deaths; diarrhea, 290; nervous diseases, 166; heart disease, 79; violence, 73; whooping cough, 29; typhoid fever, 28; pneumonia, 51, and typhoid fever, 13.

A Plea for Medical Inspection of Schools.—The State Board of Health, in its August Bulletin, makes the following eloquent plea for medical inspection of schools:

> The laws of Connecticut are imperious in compelling attendance at school during school age. The laws of nature are more imperious and infallible than the laws of man. It is one of the laws of nature that a school child staying in the same school room with another who has a contagious malady is liable to contract such disease and then must accept its fate to endure it until recovery or a fatal termination.
>
> If our lawmakers compel our children to take such exposures, it is surely their duty to take every known means to reduce to the minimum the risk to health and life.
>
> It has been demonstrated that in all our well-filled public schools dangerous contagious diseases are continually present. It has long been observed that epidemic diseases are more prevalent during the school sessions than in the vacation periods. It is not the school children only that are concerned—the general public is involved.
>
> The situation is a simple one, but full of reasons for anxiety and solicitude. Our public schools have been determined by the surest tests to be centers of infection of dangerous diseases.
>
> The laws of Connecticut compel the exposure of our well children to incur this serious risk. Do not the dictates of humanity demand that immediately a life-saving service be organized and established? The most effective means of safety known is a daily systematic medical inspection of all the schools and the exclusion of such pupils as have contagious diseases until they recover.

DISTRICT OF COLUMBIA.

Bequest to Hospital.—By the will of Anna D. Mansfield of Washington, $5,000 is bequeathed to the Episcopal Eye, Ear and Throat Hospital, to be known as the Charles Davies Mansfield Memorial Fund, to maintain a bed in the hospital.

Well-Known Anatomist Dies.—Adolph J. Schafhirt, for many years an employe of the Army Medical Museum, an expert anatomist and preparer of sections and specimens, and a frequent contributor to medical literature, died at his home in Washington, September 14, aged 62.

Under New System.—On October 1 the Emergency Hospital and Central Dispensary, Washington, was placed under the entire charge of a male medical superintendent, who is in fiscal and professional control of the affairs of the institution. Dr. Charles S. White, Washington, is the first incumbent under the new system.

New Filtration Plant.—By the aid of a congressional appropriation of $3,500,000, Washington is installing a filtration plant on land 35 acres in extent, on which filtration beds are being constructed. There are 29 distinct reservoirs, into each of which the water is filtered through beds of clean sand. When the sand becomes polluted, the water is cut off from that particular division and the sand taken out and cleansed. The beds are thus renewed in rotation, 4 of the 29 being always in process of cleaning. An article describing the filtration system of water purification appears on pages 850 to 852 of this issue of THE JOURNAL.

ILLINOIS.

Aged Physician Injured.—Dr. David R. McKinney, Gifford, fell from a train near Fithian, Ill., September 16, breaking his left leg and right arm.

Grant's Home a Hospital.—General Fred D. Grant, and his brothers and sister, wishing to preserve the Grant homestead in Galena, have presented it to the city and it will probably be converted into a hospital.

Oglesby Hospital Incorporated.—Oglesby Hospital Association, Decatur, was incorporated September 2, the purpose being to establish and maintain a hospital ward for the sick and helpless veterans of the Civil War.

Hospital for Children.—The Cook County Board has instructed the county architect to draw up plans and specifications for a hospital for children on ground adjoining Cook County Hospital, the expense not to exceed $50,000.

Combination of Dental Schools.—The College of Dental Surgery of Chicago has been merged with the dental department of the University of Illinois. During the present college year both schools will be continued and the usual courses given.

Personal.—Dr. Lewis D. Dunn and wife of Moline entertained the physicians of Moline, Rock Island and Davenport, September 18, the occasion being Dr. Dunn's birthday anniversary. Dr. Peter H. Wessel, on behalf of the guests, presented Dr. Dunn with a chain and locket.

Sanitary Condition of Cities.—Late in August the State Board of Health began a systematic investigation of the sanitary conditions of all towns in the state of 2,000 or more inhabitants. It is the intention of the board that an inspector shall personally visit each city and confer with the health officer or the board of health and also with the local physicians; inquiring into unsanitary conditions, investigating the system of sewerage and water supply and making such recommendations and giving such advice as may be found necessary. It is the intention also to have a careful chemical and bacteriologic analysis made of all public water supplies. The analyses will be conducted in Chicago under the direction of Professor Long, chemist of the board. The administration of the act to regulate the practice of medicine will also receive the attention of the inspectors, as well as the administration of the birth and death law of 1903. Dr. E. F. Baker, inspector of the State Board of Health, handed in a report, September 22, of his investigation of the sanitary conditions in the cities of Quincy, Pittsfield, Virden, Belleville, East St. Louis, Alton, Jerseyville, Collinsville, Edwardsville, Madison and Litchfield. He reports the sanitary conditions in each city to be good, with the exception of Edwardsville, where a large ravine exists, into which the sewage of the city empties. This was found to create a bad condition of sanitation, and the authorities were asked to remedy the matter, and promised to do so.

Chicago.

Personal.—Dr. L. Harrison Mettler has been appointed consulting neurologist to the Norwegian Lutheran Deaconess Home and Hospital.

Acquitted.—Dr. Ladislaus Slominski, who was held to the grand jury on the charge of performing a criminal operation, has been exonerated by the grand jury.

Fined for Speeding.—Dr. Leonard L. Skelton, whose automobile is said to have injured a man, was fined $10 and costs by Justice Doyle for exceeding the speed limit of the West Park ordinance.

Cornerstone Laid.—Mrs. Helen Barker, treasurer of the National Woman's Christian Temperance Union, laid the cornerstone of the Frances E. Willard National Temperance Hospital, September 28.

Deaths of the Week.—During the week ended September 26, 498 deaths were reported, equivalent to an annual mortality of 13.76 per 1,000. Acute intestinal diseases caused 61 deaths; consumption, 45; violence, 46; heart disease, 41; Bright's disease, 34, and pneumonia, 32.

Early Medical Chicago.—The city of Chicago has been celebrating its centennial during this week. One hundred years

ago the United States sent some soldiers to the spot where Chicago now stands, and they built a fort, which was called Fort Dearborn. The building of this fort in 1803 was the foundation of the city of Chicago. The first physician of record in Chicago was John Cooper, a surgeon's mate from Poughkeepsie, N. Y., who entered on his duties at Fort Dearborn, Dec. 31, 1810. He was succeeded by Dr. Isaac Van Vorhis, also from Dutchess County, N. Y. He was killed in the Fort Dearborn massacre, Aug. 15, 1812. The first civilian physician was Dr. Alexander Wolcott, who was also Indian Agent at Fort Dearborn in 1820. Ten years later Dr. Elijah D. Hamon came to Chicago and entered private practice, also acting as post surgeon. He was in charge of health matters when cholera was brought to the city by the United States troops in 1832. The first medical college—Rush—was incorporated in 1837, but lectures were not given until Dec. 4, 1843. A year later the first medical college building was erected at Dearborn Ave. and Indiana St., the present location of THE JOURNAL, and the first course of lectures commenced Dec. 11, 1844. The first medical society was the Cook County Medical Society, whose initial meeting was held Oct. 3, 1838, Dr. Levi D. Boone being secretary. The first general hospital was established in a portion of the old Lake House at Rush and South Water Sts., in 1850, with 12 beds. As those who had promised to support the hospital failed, the hospital was turned over to the Sisters of Mercy on the condition that it was to be undenominational and that clinical facilities be offered to medical students. The City Hospital was established at La Salle St. between Cross and Old Sts. in 1856, and was opened in November of the next year with a capacity of 300 beds. The first city board of health was appointed in 1834 and consisted of Drs. William Cluet and Edmund S. Kimberley.

The first directory of Chicago was published in 1844, at which time Chicago was a rapidly growing town of 7,000 inhabitants. This directory contains the cards of twelve physicians, practically all who were practicing in the town, showing that even in 1844 physicians in small towns did not disdain to advertise. The following cards will illustrate the style:

V. A. BOYER,
PHYSICIAN AND SURGEON,
JUSTICE OF THE PEACE.
OFFICE.—CLARK ST. nearly opposite the City Hotel.

DOCTOR BLANEY,
Professor of Chemistry and Materia Medica,
IN RUSH MEDICAL COLLEGE,
May be consulted professionally, at his office, on Clark Street, near South Water St. Dr. B. will also attend to CHEMICAL ANALYSIS, in all its branches.

DANIEL BRAINARD, M.D.
PROFESSOR OF ANATOMY AND SURGERY,
In Rush Medical College,
Office on Clark St. Opposite the Post Office.

DOCTOR H. H. BRAYTON.
Having established his residence permanently at
CHICAGO,
Respectfully tenders his professional services to the inhabitants of the City. TWENTY-FIVE years' Study and Practice, and constant application to professional duties, he hopes will entitle him to the confidence of those who may demand his Services.
FRESH VACCINE VIRUS
Now, and always on hand. Office & Residence On the East side of CLARK ST. first door South of the Methodist Church.

DOCTOR J. BRINKERHOFF,
Office Clark Street, Opposite Public Square.
DRUG STORE, 143 LAKE ST.

DOCTOR EGAN
Can be consulted in private cases at his Residence or Office, but cannot attend to out-door practice.

M. L. KNAPP, M.D.
PROFESSOR OF OBSTETRICS, &c.
In Rush Medical College, Chicago,
May be consulted professionally at the Mansion House,
NO. 82 LAKE STREET.

The cards of a homeopath, Dr. R. E. W. Adams, and of Drs. John W. Eldridge, Benjamin F. Hale and D. S. Smith also appear.

And at this early day the quack was there:

PHRENOLOGICAL AND MAGNETIC EXAMINER,
At His Residence, 2nd House N. of the Ep. Church,
DR. TEW,
MAY be consulted in all cases of Nervous or Mental difficulty.—The application of his Remedies will enable him to relieve, or cure, any case of Monomania, Insanity, or recent Madness, where there is no inflammation or destruction of the Mental Organs. His attention to the diseases of the Nervous System, such as the St. Vitus' Dance, Spinal Affections, has resulted in some remarkable Cures. Having been engaged, for the last five years, in teaching Mental Philosophy, as taught by Phrenology, together with his numerous Phreno Magnetic Experiments, enable him to give correct and true delineations of Mental Dispositions of different persons; which will be every way profitable to all who wish to understand the mysteries of their own natures, and how they may use their talents to the best advantage.

The announcement of Rush Medical College in the directory referred to gives the faculty as consisting of Danial Brainard, M.D., Professor of Anatomy and Surgery; James V. Z. Blaney, M.D., Professor of Chemistry and Materia Medica; John McLean, M.D., Professor of the Theory and Practice of Medicine; M. L. Knapp, M.D., Professor of Obstetrics and Diseases of Women and Children, and A. W. Davisson, Prosector to the Professor of Anatomy. The name of E. S. Kimberley, M.D., also appears on the list of trustees. It is announced that "the annual course of Lectures for the first session commences on Monday, December 4, 1843, and will continue sixteen weeks"; that "the requirements for graduation are three years' study with a reputable physician, two courses of lectures, one of which must be in this institution (or two years' practice will be received in lieu of one course). The candidate must be 21 years of age, of good moral character, must present a thesis on some medical subject of his own composition, and in his own handwriting, which shall be approved by the faculty; and pass a satisfactory examination on all the branches taught in this college." In conclusion, it is stated that "Good board and room can be obtained in Chicago at from $1.50 to $2 per week." Happy times now past!

INDIANA.

College Opens.—The Central College of Physicians and Surgeons, Indianapolis, opened for its twenty-fifth year, September 22.

Much Typhoid.—For the first half of September 56 cases of typhoid were reported in Indianapolis, two more than for the corresponding period of last year. The board of health is actively examining well water, and condemning wells.

Personal.—Dr. C. Homer Stalker, Borden, has been appointed assistant physician at the Indiana State Soldiers' Home, Lafayette.——Dr. A. Grant S. Brubaker, Indianapolis, was thrown from his buggy, September 12, and severely bruised.——Dr. Bruce Easley, New Albany, has gone to Europe.

Deplore Hibberd's Death.—The City Council of Richmond met in special session, September 10, and passed resolutions eulogistic of the character of Dr. James F. Hibberd. The Allen County Medical Society held a special meeting at Fort Wayne, passed resolutions and deputed Dr. Miles F. Porter to represent the society at the funeral.——The Wayne County Medical Society passed resolutions eulogistic of "its most distinguished member."

LOUISIANA.

Illegal Practitioner Enjoined.—The State Board of Medical Examiners secured an injunction against "Dr." D. O. Holmes, 1306 Magazine St., New Orleans, restraining him from practicing medicine in Louisiana, on the ground of his being an "illegal practitioner."

Typhoid Reports Requested.—The City Board of Health has issued a circular letter to the physicians of New Orleans urging their co-operation in tracing the sources of typhoid in-

fection, and reminding them that it is their duty under the law to report all cases of typhoid fever. The health officer states that a death certificate is often his only notification.

Asylum Overcrowded.—The State Insane Asylum, which has a capacity for about 1,200 patients, now contains 1,353, and more than 100 applications are on file. Owing to the congested condition of the dormitories it has been necessary to place cots in some of the corridors formerly used as sitting rooms. To relieve this congestion, an insane asylum for colored persons is being built at Pineville, Rapides Parish, which will accommodate about 450 patients.

Alarming Increase of Insanity.—In speaking of the increase of insanity throughout the country, Dr. G. A. B. Hays, superintendent of the State Insane Asylum at Jackson, says that he had recently visited Missouri and Texas and found that the situation was as bad as in Louisiana. Both these states have several asylums and each is having a new one erected. From this fact Dr. Hays contends that the conditions now obtaining in Louisiana are not peculiar to that state alone, but are simply an expression of a state of affairs that is widespread throughout the country.

Prisons for Insane Criminals.—There are a number of criminals who have been adjudged insane, confined in the Louisiana State Insane Asylum. The superintendent thinks that this class of insane should be held in some specially-prepared portion of the state prison, where they could be placed under proper treatment and at the same time have the possibility of escape minimized. Not long ago one of the assistants at the asylum narrowly escaped death at the hands of one of these men. The handling of these patients should be the subject of special attention.

Cottages for Insane Consumptives.—Dr. G. A. B. Hays, superintendent of the Louisiana State Insane Asylum, suggested to the board of directors of the asylum that two cottages be erected for white consumptives now in the asylum, one for each sex. The matter was favorably considered by the executive committee and will be submitted to the board at its meeting October 5. The matter of sequestering the insane suffering from tuberculosis is one that has been acted on in a number of asylums in other states, and it would greatly alleviate the lot of the unfortunate inmates if the plan is carried out in Louisiana.

MARYLAND.

Personal.—Dr. Walter Hutchins, My Lady's Manor, Md., has gone to New Mexico for his health.

Typhoid Investigation.—Health Officer Dr. Christian R. Scheller, Hagerstown, is investigating the cause of the epidemic of typhoid fever at Clear Spring, Washington County, where 31 cases are reported.

A Nuisance.—Dr. F. A. Ruhl, sanitary officer of the Thirteenth District, Baltimore County, has reported the Claremont Chemical Company's plant at Sextonville a nuisance and "dangerous to health." "Inhaling of the dangerous gases lowers the vitality of the body and causes headaches, nausea and irritation of the respiratory organs."

Baltimore.

College Opens.—The twenty-third annual session of the Baltimore Medical College opened September 24 with an address by Prof. J. Frank Crouch.

Death and Disease.—The number of deaths for last week was 171, an annual death rate per 1,000 of 15.80. The chief causes of death were consumption, 30; cancer and cholera infantum, each 11; Bright's disease, 10; pneumonia, 6, and typhoid fever, 4. The most prevalent epidemic diseases were diphtheria, scarlet fever and typhoid fever; one case of smallpox was reported.

Personal.—Drs. Howard Kelly and William Osler returned home last week.——Dr Harry M. Hurd is spending his vacation in the Blue Ridge Mountains.——Dr. John T. King has returned from a trip abroad.——Dr. Charles Lewis Allen, formerly connected with Georgetown University Medical School and Vanderbilt Clinic, has been made lecturer on nervous diseases in the University of Maryland.——Dr. Alan Welch Smith has located in Portland, Ore.

PENNSYLVANIA.

Philadelphia.

New Buildings Opened.—New buildings containing operating rooms and an amphitheater were recently opened at the Samaritan Hospital.

Bequest to Hospital.—The late Samuel Cummings left an estate of $40,000 bequeathed to his widow, which, on her death, is to be equally divided among four institutions, the Methodist Episcopal Hospital being one of the four beneficiaries.

One American Selected.—The International School of Hygiene has selected one man from each country in the world as a representative. Dr. J. K. Shell of Philadelphia is invited to represent the United States at the next annual conference at Güttenburg, Germany, next fall.

Woman's College Opens.—At the opening of the Woman's Medical College, September 23, it was announced that to fill vacancies in the faculty Dr. Edith Womer Cadwalader had been elected professor of obstetrics and Dr. Ruth Webster professor of physiology and hygiene. The chair of anatomy made vacant by the death of Dr. William H. Parrish will not be filled this year.

Poisoning Case.—In the trial of Emma Williams, charged with poisoning her children, several medical experts have testified that the children died with symptoms of arsenical poisoning. The chemical expert testified to finding several grains of arsenic in organs examined. One line of defense announced is that the children were poisoned by "spit balls" which they made of wall paper. An effort has been made to show that the colored herb "doctor" Hossey supplied the poison to the accused.

Appeal for Jefferson.—Hon. William Potter, president of the board of trustees of Jefferson Medical College, in his introductory address on September 24, made a strong appeal for the benevolence of the wealthy in behalf of his own and like institutions concerned in the saving of human life. While great liberality has marked the giving to libraries and other institutions of learning, gifts for the endowment of medical schools have been strangely meager. President Potter spoke in high terms of the Jefferson Hospital now building, and announced the purchase of properties in Walnut street, where it is proposed to erect a nurses' home.

The Typhoid Epidemic.—For the week ended September 26 there were 81 new cases of typhoid fever. The health authorities who have been energetic in their efforts to find the source of infection in sections of the city where the disease has been almost epidemic—districts supplied with filtered water—have, they believe, found the true sources. In addition to infected milk supplies, it has been discovered that a well and a spring from which many secured their drinking water are contaminated. While the typhoid bacillus was not detected in the water, it was found to contain the colon bacillus and other impurities, indicating contamination from cesspools. Eighteen new cases of smallpox were reported for the week.

GENERAL.

Yellow Fever Close to Texas.—One case of yellow fever was reported from Laredo, Mexico, last week, which is just across the Rio Grande from Laredo, Texas. The number of guards patroling the river has been increased and all communication between the cities stopped. A case is again reported from Monterey and again denied. United States officers say the truth is hard to obtain. In Victoria only a dozen cases now exist, and the authorities think they will soon have the disease stamped out. Tampico now has seven cases weekly, and the number is diminishing. War against the mosquito is carried on.

FOREIGN.

Police Regulations in Prussia Against Hypnotism Exhibitions.—The Prussian authorities have cautioned the police against allowing any exhibitions of magnetizing, suggesting or hypnotism or any such measures.

Pasteur Treatment of Hydrophobia at Rome.—The mortality among the patients treated at this institute, which is in charge of Professor Celli, has been only .5 per cent. since its organization in 1899. During this period 2,000 persons have received treatment, averaging about 38 a month.

The Sanatorium Movement in Denmark.—The National Antituberculosis Association was founded in Denmark two years ago, and has now 30,000 members. A model public sanatorium has been just opened at Silkeborg, the first in the country. It has accommodations for 122 patients, with 112 rooms facing the south. Each patient has a minimum of 900 cubic feet of space.

Quinin in Italy.—All the provinces of Italy now have quinin bisulphate for sale everywhere, standardized by the government and sold at the postoffice in places without a drug store. The

maximum price allowed to be charged is about two and a half cents a gram, and the charitable organizations are supplied with it to be distributed gratuitously among the poor in the most malarial regions.

False Testimonial Ends Insurance Benefit.—A German manufacturer was in regular receipt of an indemnity paid by a sickness insurance company, on account of a serious stomach trouble. He recently applied to a charlatan, and in order to obtain a reduction in the charges of the latter signed a certificate to the false effect that he had been entirely cured of his stomach trouble after a week's treatment. This certificate was published in the charlatan's ads with the consequence that the insurance company naturally at once suspended further payment of the indemnity.

Popularizing Medical Lore in Russia.—The St. Petersburg Red Cross Society has inaugurated a two years' course of instruction of laymen in the principles of hygiene, disinfection, massage, emergency operations, internal, venereal and cutaneous affections, surgery, etc. The practical demonstrations will be given in a military hospital, and in some of the city public hospitals. The aim of the course is to disseminate information among the people in regard to the onset and care of disease, and diplomas will be conferred on those who complete the course. Our medical exchanges regard the project with disfavor, fearing that the smattering of knowledge thus gained will be an incitement to enter the ranks of the charlatans.

The Anti-Seasickness League Ship for the Lisbon Congress.—The Ligue contre le Mal de Mer chartered a vessel on the occasion of the International Congress at Moscow in 1897 and conveyed a number of members of the congress from England to St. Petersburg and return. The league now proposes to have a ship in readiness for the International Medical Congress at Lisbon in 1906. The vessel will start from Hamburg and touch at intermediate ports, taking the members after the congress to the Mediterranean European ports. It is proposed to install in the vessel a complete exposition of everything bearing on the subject of the prevention of seasickness, and to institute experiments on the passengers on request. The permanent address of the league is Ligue contre le Mal de Mer, Paris V, Boulevard Porte Royale 82.

The Syphilized Chimpanzee.—It is announced from Paris that the chimpanzee successfully inoculated with syphilis this summer now presents the symptoms of the secondary stage. When Metchnikoff and Roux exhibited the animal at the Académie de Médecine, July 28, the primary chancre was recognized as specific by Fournier and others, and the eruption, swollen glands and enlargement of the spleen are now likewise qualified as specific by experts, as Metchnikoff proclaimed at one of the meetings of the International Congress of Hygiene and Demography, which has just closed its sessions at Brussels. Attempts to inoculate other monkeys from this animal—selecting those a degree further removed from man—have proved negative. It seems to be established by this research that the anthropoid apes alone are susceptible to syphilis. The previous communications on the subject were reviewed in THE JOURNAL, page 752.

Crusade Against Tuberculosis in Buenos Ayres.—Stringent measures have been enacted in Buenos Ayres and a penalty of about $192 is enforced for every householder who neglects to comply with the regulation that every house in which a tuberculous person has passed even a single day is to be regarded as infected and disinfection required. Spittoons are to be placed in all public places holding carbolized water renewed twice a day and a penalty of $2 to $5 enforced if a person spits elsewhere than into the receptacle provided. Spitting on the floor of street cars is punished by a fine of about $10; the police are instructed to enforce these regulations. Public vehicles must be thoroughly disinfected twice a year and their floors twice a week. Cars must be disinfected with formalin once a month. No tuberculous person is to be allowed to serve as waiter, cook, butcher or deal in any way with articles of food. Repetition of an offense entails a double penalty.

Cancroin in the Austrian Hospitals.—When Adamkiewicz first presented his cancroin for the treatment of cancer, Albert and Billroth offered him every opportunity in their clinics to prove its efficacy. After the most thorough tests and long experience they concluded that the remedy had no curative action nor power to arrest the disease. Their verdict has not been contradicted in the medical world during the ten years since, but the minister of the interior has recently notified the public hospitals throughout the empire that cancroin must be now given a thorough and objective testing, and a special ward for the treatment of cancer by this method is to be established in some hospital and placed in charge of Adamkiewicz. Our Austrian exchanges comment, as might be expected, on this innovation, which is such a contrast to the usual lethargy in regard to medical matters on the part of the administration—"usually it requires years of red tape before a university, to say nothing of any special faculty, is able to obtain a microscope or even some needed washstand, and every request for some of the modern, well-tried remedies always meets with the reply that the testing of new drugs is not in the province of the hospitals." The Austrians have been chagrined lately over the refusal of a number of prominent German professors to accept the chairs left vacant at Graz, Innsbrück and Vienna by the death or retirement of eminent men. One after another declined as the chairs were offered to them.

International Congress of Hygiene and Demography.—September 2 to 8 witnessed the gathering at Brussels of the eleventh international congress of hygiene and demography, the semi-centennial of such assemblies. There were 1,900 registered members, and 500 were delegates from various countries. The congress was a model of perfect organization we are told. More than 100 sessions were held in all, and each discussion occurred at the time and place as planned from the outset. Among the resolutions adopted was one favoring preventive antidiphtheria treatment and tests of the antimicrobian strength of the antitoxin as well as its antitoxic power. Another resolution adopted was to the effect that "infant consultations" under the care of physicians should be established, and that young girls should be given practical instruction in the hygiene of infants, visiting the "consultations," etc. Circulars proclaiming that bottle feeding can never take the place of breast feeding should be given with the marriage license and when a birth is declared. A number of resolutions were voted in regard to school hygiene and prophylaxis of the plague, among them one to the effect that quarantine against the plague should be abandoned when possible to substitute close surveillance for ten days, reducing it to five days if the passengers consent to prophylactic inoculation with antiplague serum, even when cases of plague have occurred on the vessel during its trip. Ships touching at infected ports should be supplied with antiplague serum so that passengers and crew could be vaccinated when plague occurs on board. The physicians entrusted with the prophylaxis of the plague should be appointed by the central powers, independent of the navigation companies. In regard to tuberculosis, the resolutions were based on the principle that it is eminently a social disease. In the section on demography the statistics presented confirmed the fact that infantile mortality is mainly during the first year, and Bertillon pointed out that 90 per cent. of the infants succumb to a microbian affection, and that the aim should be to treat infants with the same care with which a wounded person is tended. The pressing need is for the mothers to be educated in the principles of asepsis. The section adopted a resolution urging that the accessory circumstances should be recorded with the births, including the premature and the stillborn. The next congress will be held at Berlin in 1907, a national congress of hygiene at Marseilles in 1904, a congress of physical education at Geneva in September, 1904, and a section on hygiene will be one of the features of the international and universal exposition which Liège is preparing for 1905.

Correspondence.

The Danger of Methods Often Used at Present in Dusting Waiting Rooms, Cars and Other Public Places.

BALTIMORE, Sept. 21, 1903.

To the Editor:—The day before yesterday on my return from the Parry Sound District in Canada, at the close of a long holiday, I was delayed for about an hour in the Pennsylvania railroad station at Harrisburg. It was in the small hours of the morning, and being weary I nodded and fell asleep for awhile as I sat on the bench, only to be suddenly awakened with a stifling, gasping, choking sensation caused by thick clouds of dust raised by two sweeping men who were vigorously plying their brooms and stirring up all the desiccated filth deposited on the floor by the great continuous traffic of the previous day and night. The waiting room was crowded, late as it was, and all who remained in the room were forced

to breathe the pulverized debris which had been tracked in from the streets, mingled with the dried expectorations of hundreds of men, women and children of the preceding day.

I need not argue so transparent a case with any intelligent medical man, nor need I dwell on the variety of infectious diseases of the respiratory passages, coryza, bronchitis, whooping cough, pneumonia, tuberculosis, as well as diphtheria, etc., etc., which are at present disseminated over the length and breadth of our land, day by day, by just such atrocious death and disease-dealing procedures, which sin against the simplest and best-known laws of hygiene.

As for myself, although in splendid health ever since I left this country for Europe on April 10 last, I developed immediately a fever and a wretched cold in the head, which is traveling down through my larynx, producing a cough and almost completely unfitting me for work for a few days.

My object in writing this letter to THE JOURNAL is to enlist the entire medical profession as a committee on the whole to expostulate in strong terms, to insist, to write vigorous letters to the daily papers if needs be, or even perchance to be almost ready to resort to personal violence to put a stop to such atrocious practices.

I want my confrères to note the great prevalence of this practice of atomizing the dried filth of our streets and forcing people to inspire it, in many public institutions, in hotels, and in Pullman cars. I am sure it must have long been an offense to many decent clean men to be obliged to submit to breathe the dust thrown in their faces by the currents of air raised by the whisk broom of the Pullman porter as he belabors the coat, the trousers, the hat and the overcoat of the next dusty passenger. Dr. McCormack tells me that the street cars of Baltimore are cleaned by a woman, who enters the car when it goes into the shed and raises clouds of dust with her duster, much of which settles in the upper parts of the car. The car then goes out, and as it jumps over the rails the light dust descends to be inspired by the passengers.

In spite of the general corrupt political state of our country I think a continued vigorous protest from the countless thousands of natural guardians of the public health, my brethren of the medical profession, would soon effect a radical change in the methods of removing and collecting dust and filth from floors and clothes, as it appeals so directly to the selfish instinct of self-preservation.

Let me ask this pertinent question: What right have you or I, my medical brother, to be longing for the dawn of a new era in medicine when we shall be in possession of a toxin for every disease, for tuberculosis and for kindred ailments, so long as we fail to utilize the far better and simpler efficient methods of preventing disease which we already have at hand, when, for example, such a city as Philadelphia, once noted for its cleanliness, becomes conspicuous for its filthy streets, when in our homes, in our streets, in our public places, that most modest of all virtues, cleanliness, holding in her beneficent hands a reduction of the morbidity and of the mortality of so many of the scourges of our modern "civilization," to a point far below 50 per cent. of its present ratio, when cleanliness, I say, is unknown? Must we have magic to please our people? Must the remedy be a poison manufactured in a dramatic way and injected into the veins of the disease-stricken patient, in order to arouse our languid interest?

We put the whole noble army of bacteriologists to utter blushing shame when, as a result of all their arduous labors, they give us such a preciously simple remedy, when after having explained the causes of many of our most frightful diseases in a manner so simple that a child in a kindergarten can both understand the method of invasion and apply the remedy; we shame them I say when, after having thus done all the most sanguine imagination could have proposed, we dumbly plod along the same old dusty, dirty road, waiting to crown the discoverer of an antitoxin.

The specialist in disease of the lungs, throat and nose may exclaim that these are but trite observations, the very A, B, C of his science, iterated and reiterated in medical society meetings. But I care not how old the observation is or how often repeated if men do not heed it. And of one thing I am certain, and that is that the dormant medical profession at large is the proper police body to take the body politic by the throat and shake it out of its disgraceful lethargy.

A distinguished president of one of our great universities told me some ten years ago that he had joined an association known as "the kicking society," the members of which were obliged to object every time they saw gross violations of the law and injustice done.

Let us constitute then a kicking society from Maine to California and insist on clean streets, clean houses, clean public buildings, and clean cars. Let it be recognized as a grave offense and an insult to force a neighbor to inhale myriads of pathogenic germs. The primary inviolable right of every man is to pure air and pure water and sunlight when the sun is shining. See, my brethren, that he is not robbed of his rights.

HOWARD A. KELLY, M.D.

Mental Status in Phthisis.

NEW YORK CITY, Sept. 14, 1903.

To the Editor:—Under the above title a correspondent in THE JOURNAL of the American Medical Association, August 29, p. 767, asks two questions concerning the mental condition of patients with pulmonary tuberculosis. May I, by reason of a somewhat extensive experience with phthisical patients, be permitted to reply and start a discussion, trusting that the interesting subject may cause others, specialists in phthisiotherapy, and particularly general practitioners, to express their opinions through the medium of THE JOURNAL?

The family physician more than anyone else should be heard from on this subject, for he must of necessity be more familiar with the psychologic and mental condition of the members of a family which he has attended for years, than the specialist or consulting physician could be.

The first question was: "Are persons who are afflicted with pulmonary consumption prone to attribute their physical weakness to some other cause than consumption?"

Yes, many consumptives are apt to do so, but the reason for this is not a condition brought about by the disease itself, but by the fear of the disease. Invalids know that many people will shun, or wish to shun them if they are called consumptives. Many still consider phthisis an incurable disease, and try to delude themselves, their families and friends as long as possible, feeling that to pronounce them consumptives would be to sign their death warrant. Others have no suspicion of their true condition and are sure they have no tuberculous disease. Thus I have not infrequently seen consumptives, even among the most cultured and educated, who would ascribe a hemorrhage from the lungs to a little bleeding from the throat or nose; the cough to bronchitis or to a derangement of the stomach; the pleuritic pains to intercostal neuralgia or heart trouble; their general weakness to an overtaxing of the nervous system. I have even found medical men suffering from tuberculosis who believed their symptoms were due to anything and everything else except to the development of a typical pulmonary phthisis.

Whether and when it is wise to leave the patient under these delusions will largely depend on the state of mind of the individual invalid and the good judgment of the physician. At times I have found it best to dispel all such illusions at once; in other cases it was necessary to proceed gradually and with the utmost tact. In view of the infectiousness and the curability of the disease under proper care the patient should, as a rule, be made acquainted with his true condition as soon as possible. If he is told that he will get well quicker if he calls his disease what it is and takes proper care, than if he calls it something else and neglects it, he will have more courage, be in a better mental condition and will then be careful not to infect others or reinfect himself.

The second question was: "Are persons afflicted with pulmonary consumption more easily turned against their dearest friends by designing people than when in a normal state of health?"

I would answer this strange query with a most emphatic

"No." If such instances occur they are the exception, not the rule, and are then due to a peculiar psychologic state of the individual. Consumptives as a class are grateful to their friends, physicians and nurses and devoted to their families. At the beginning of the disease, it is true, a decided irritability may often be noticed, with a dislike or indifference to pleasure or work; but beyond this no distinct psychologic changes can be observed. Many consumptives are very sanguine about the outcome of their disease, others are depressed, some totally indifferent. Even in the case of a fatal termination most of them retain a clear intellect until the last. The character and disposition of the consumptive varies as it does in well people; but to say that by reason of his disease he is easily turned against his friends by designing people would be absurd and do him the greatest injustice.

There is enough phthisiophobia in the world already, and let us not give the phthisiophobic another cause to increase his fear of or dislike for the unfortunate consumptive. Thousands of these are as noble, true and generous as any other class of invalids or well people.

Consumption is a preventable, curable, communicable, but by no means a dangerously contagious disease. Among those who were once afflicted with it and were ultimately lastingly cured we count the brightest minds, the most generous and truest hearts. The German poet Goethe, our own Peter Cooper, the French poet Coppée, were among them. The greatest German specialist Herman Brehmer, who cured himself, and thousands of others from this disease; his two greatest contemporaries and co-workers, still alive and active. Dettweiler in Germany and Trudeau in this country, all are examples of the highest type of men. The story of the lives and work of those who have passed on and those still with us give evidence of their great qualities of heart and mind, their truth and devotion to friends, family and mankind in general.

16 West Ninety-fifth Street. S. A. KNOPF, M.D.

Suggestive Therapeutics vs. Hypnotism.

CHICAGO, Sept. 26, 1903.

To the Editor:—In THE JOURNAL, Sept. 26, 1903, appears an editorial under the above heading, which challenges some comment. . . . Hypnotism, as now understood by men who have had personal experience with it, is really synonymous with suggestion. The Charcot school is responsible for the term artificial hysterical state occasionally cropping up in medical literature. Charcot conducted his experiments with hypnotism on about a dozen or more hysterical patients which were demonstrated to the whole world in order to prove his theories. The peculiar method used and the frequency with which these patients were hypnotized contributed toward their becoming perfect automatons of unconscious suggestion. Hypnotism as practiced now is nothing else but suggestion administered during a state of greatest susceptibility to suggestion. I can not conceive how you can recommend suggestive therapeutics and condemn hypnosis when to successfully practice the first the second is often an absolute necessity. Not all people are alike suggestible and particularly are hysterical patients refractory to suggestions from without, for they are mostly dominated by autosuggestions. If suggestion is to be of value it must be administered during the time of greatest susceptibility. Many people are susceptible to suggestion in the waking state and these are the proper subjects for indirect waking suggestions by means of innocuous drugs, electricity, etc. In some cases we are forced to place such patients into the condition of greatest receptivity for our suggestions, I mean into hypnotism. The so-called dangers from hypnotism are imaginary, and although I have hypnotized hundreds of times I have never seen any ill effects from its use. Bernheim, Liebault, Ford, Wetterstrand and a host of others who practiced hypnotism thousands of times have had similar experiences. Because of the Mendel commission having assumed an unfavorable attitude toward hypnotism is no valid argument against its use by the physician in properly-selected cases.

JULIUS GRINKER, M.D.

Physiology in the University College of Medicine.

CHICAGO, Sept. 28, 1903.

To the Editor:—My attention has been called to the fact that in my report on Curriculum in the National Confederation of State Medical Examining and Licensing Boards (THE JOURNAL, Aug. 15, 1903, pp. 456-461), the University College of Medicine, Richmond, Va., is not credited with any work in physiology. This college devotes to this study 53 hours of lectures and 27 hours of recitations. I am informed by the proctor that the number of hours has been increased for the coming session. Any other errors noted in the above report will be corrected most cheerfully if sent to the undersigned.

70 State Street. GEORGE W. WEBSTER, M.D.

The Visiting Physician in Berlin.

BY DENSLOW LEWIS, M.D.
CHICAGO.

(*Concluded from page 798.*)

With a slight knowledge of social usage and with the ability to speak the language to a reasonable extent, the American visitor's sojourn in the German metropolis will be most enjoyable and profitable. The wealth of clinical material is unsurpassed elsewhere, and the sensible manner in which it is utilized will be appreciated. The friendly reception extended to Americans and the invariable courtesy that prevails on all sides combine to make the visitor welcome and to facilitate his studies. The months of April and August are vacation months when many medical men leave town. The months of March and October are also vacation months, but especially valuable to the medical visitor for the vacation courses (*Ferienkursen*) are given at this time. These courses are unusually interesting, for it is here that the younger teachers have a chance to exploit themselves and the older men to bring forward prominently special points in diagnosis and treatment. The cost is insignificant. For ten dollars a month you can see Lexer and others connected with Bergmann's Klinik perform major operations every morning, and you can do minor operations yourself in the Poliklinik, where over 20,000 patients are treated every year.

If one's stay is to be protracted it is well to matriculate and be enrolled as a student. It is imperative to show a passport, and it is customary to present the diploma. I had forgotten to bring either, but I procured the passport from our Embassy for about ten marks and I showed the dean a copy of my "Obstetric Clinic" I had with me to give to Olshausen. In arranging to matriculate consult the man in charge, called the "*Pfoertner*," or better still, his wife, who is an English woman. They keep the buffet in the university building and supply the student with information as well as sandwiches and drinks. They told me the day and hour I was expected to appear in person and qualify.

When the appointed time arrived I found myself, together with some fifty others, seated in the "*Aula*," as the assembly hall of the university is called. At one end of this hall is a throne or pulpit arrangement with leather chairs in front and seats along each side of the room. I learned afterward that this is where the candidate for graduation takes leave of the university by publicly defending three theses before all the world—a function known as "*promovieren*." At the other end of the room is a large table at which are seated several dignified gentlemen who superintend the matriculation. When my name was called I approached the table and was interviewed by the gentleman at the end. He looked at my passport and compared the name with the name in my book on obstetrics. Being satisfied apparently with my credentials, I was directed to the rector, who wrote my name and his own on a large Latin document, which I deciphered later and learned that it was my certificate of matriculation. I then passed along to another gentleman, who had me write my name and address in a large book. The next gentleman had me write my name on a numbered student's card, which I was instructed always to have on my person and which, I learned afterward, exempted me from arrest or interference by the police. The next

gentleman, who is the *"Ober-Pedell,"* collected eighteen marks and gave me my *"Anmeldebuch,"* in which to record the lectures attended. I went back to my seat and waited until all present had similarly run the gauntlet. Then the rector arose and made a short speech. He said we had all done well at our high schools and he hoped we would do equally well at the university. He admonished us against the temptations of the metropolis, and we formed in line and marched past him so that each one could receive from him the academic handshake. The medical students were directed to meet the dean the next day at a stated hour, on which occasion, by showing our student cards and matriculation certificates, we received another Latin document of smaller size, which indicated that we were inscribed as students of medicine.

The next thing to do is to decide which lectures are to be chosen, or, as here expressed, *"belegt."* You must choose at least one course or your name does not appear in the catalogue. You have the first six weeks of the semester in which to look the field over and make a decision. During this time you visit the different men, hear them teach or see them operate. This is called *"hospitieren."* Having made your choice you visit the *"Questor"* at the university building between the hours of 9 and 1, and in addition to paying for the courses you select you pay also twelve marks and a half each semester for incidentals, including free medical attendance in case of illness or accident. The amount paid and the courses chosen are written in the *"Anmeldebuch,"* which must be taken to each professor for his signature at the beginning and end of each semester. When leaving the university a certificate of attendance called an *"Abgangszeugniss"* can be procured by the payment of twelve and a half marks and the presentation of your *"Anmeldebuch"* properly attested. This certificate shows the studies you have *"belegt,"* and in conventional terms it is stated regarding your conduct while a student of the university that there is *"Nachteiliges nicht zu bemerken,"* that is, "nothing detrimental to be remarked."

Regarding the different courses of clinical instruction I will not now write in detail. The medical man who contemplates visiting Berlin will soon learn about them on arrival or, at trifling expense, he may procure the announcements in advance through almost any American bookseller. Many of the best courses are free and no one will ask for the student card at the others. Indeed, in some of the best-known courses few persons pay the fee. Lassar's course on skin diseases, for example, is *"belegt"* by only five or six in a semester, although his auditorium is crowded every day. He often jokes about this, but he is so popular and so extremely amiable that every visitor is made welcome. The vacation courses, however, must be paid for, as well as all special arrangements for individual instruction. The facilities for instruction of this kind are ample, so that, at insignificant expense, one may pursue almost any line of study in the most practical manner.

Some of the best operating is absolutely free. Israel, Krause, Sonnenberg, Körte, Hoffa, Rotter, Dührssen, Mackenrodt, Jansen or Neumann—Hahn's successor at Friedrichshain—may all be seen, each at his respective klinik, by presenting your visiting card. To see Olshausen, who is the best known gynecologist in Germany, it is advisable to make a formal call about 5 o'clock at his residence adjoining the Frauenklinik, of which he is the director. He is a most affable gentleman and will invite you to be present at his laparotomies, which occur early each morning. It is customary to give his *"Portier,"* who is in charge of the door of the Frauenklinik, about two marks a week if you are a constant visitor. You will receive from him a postal card every day, and if the case is urgent he will telephone you or send a messenger in search of you.

A few words, in closing, about graduation at the Royal Friedrich-Wilhelm University, as the institution is called in Berlin. Three Americans graduated there last summer and another from New York is now a student. These gentlemen all began their medical studies in Berlin. On matriculating they were obliged to show their passports and a *"Zengniss der Reife,"* that is, evidence of having an amount of knowledge equivalent to that possessed by a graduate of a German gymnasium. This is perhaps represented by the completion of the sophomore year at one of our American colleges. When candidates for graduation they had to show nine semesters' work, including anatomy, chemistry, physics, physiology, histology, biology, internal medicine, obstetrics and gynecology, surgery, ophthalmology and two semesters of pathology. They visited the dean, paid 440 marks each for the examination and presented their credentials. A day or two afterwards they were called before the dean for the *"tentamen medicum,"* which is a written examination lasting two hours. The subject assigned may be in any department of medicine. On one occasion last July the subjects were puerperal eclampsia, preparation and therapeusis of atropin, pernicious anemia and croupous pneumonia. The next day the result was announced and the day set for the *"examen rigorosum,"* which was oral.

There are three divisions of the faculty composed of five members—commissions as they are called—who conduct this examination. The candidate may be assigned to either commission. In one instance he will be examined in anatomy, obstetrics and gynecology, materia medica, ophthalmology and internal medicine. In another commission the professors represent pathology, physiology, surgery, internal medicine and obstetrics and gynecology, while the third commission examines on neurology, hygiene, surgery, pediatrics and anatomy. Of course, each professor may examine in any department of medical science, but he rarely goes outside of his own. The candidates, faultlessly attired in evening clothes, present themselves by appointment at 5 o'clock at the dean's office, where they are received by each member of the commission in turn. Each interview lasts an hour. The number of candidates at any one time may not exceed five. Wine and cake for their refreshment are on a table in the anteroom. Shortly after 10 o'clock, when all five professors have compared their markings, the result is announced.

When a candidate does not pass he may be re-examined at the end of the next semester by paying a small additional fee. When he does pass he is said to have graduated *"rite,"* that is, successfully, or *"cum laude,"* meaning with praise. My young friend Teague of Alabama received this honor last July. The other two distinctions, *magna cum laude"* and *"summa cum laude,"* are rarely attained by foreigners. Once during the past four years an Armenian received the *"magna,"* and his thesis was considered so exceptional that the dean added an extra point, which entitled him to the *"summa."*

The thesis, or *"Arbeit,"* as it is called, is prepared under the direction of a privat docent or professor, who assigns a subject, supplies the bibliography or, if the subject is clinical, provides the patients. When completed it must be approved and recommended to the dean as the *"Doktorarbeit."* The dean examines it and the candidate is directed to a printer, who will strike off 440 copies, 340 of which remain the property of the university, at an expense of 120 to over 200 marks, according to its length. The page proof is submitted to the dean, who either signs it immediately or keeps it to look over. The printer is fined for printing an *"Arbeit"* without the dean's approval. The page proof approved by the dean is kept by the printer, who prints on the title page the date of graduation, a date also ordered printed on the diploma.

The last function when the candidate receives his parchment diploma, also a duplicate on heavy paper and seven printed copies, is known as *"promovieren."* It takes place in the *"Aula"* of the university at a set hour—usually 2 o'clock. The candidate defends three propositions, called *"Thesen,"* before all the world. He arranges for three opponents to be present, one to speak against each proposition. When my friend Stephens of Tennessee went through the ordeal I had the honor to be one of his opponents. I put on evening clothes, brushed my silk hat, polished my patent-leather shoes and invested in a pair of white kid gloves. Thus attired I joined the candidate at the appointed hour. His friends were seated at either side of the room, while he and his opponents, all in full dress, awaited the entrance of the dean. Presently the door at the other end of the room opened and the dean

advanced toward us. He was dressed in a flowing gown of red silk or velvet and wore a large turban of the same material. The candidate met him at the middle of the room and presented him with a bound copy of the "*Arbeit*," which contained the three "*Thesen*" to be defended and the names of the opponents. The dean seated himself at one side, the opponents in front of the stage, the candidate mounted the rostrum and reading off a set form in Latin declared that he had fulfilled all requirements and was now prepared to defend three "*Thesen*," which, with permission, he would read in the German language.

When my turn came the candidate announced that in puerperal eclampsia immediate delivery is indicated. I knew, of course, the day before that I was to dispute this proposition, and I had told the candidate he might as well maintain that it was light when the sun was shining. I arose and remarked that even if the delivery were immediate aseptic precautions should not be forgotten, for it was hardly worth while for a woman to recover from eclampsia if she were fated through neglect to die later of sepsis. I referred to Löhlein's statistics, the best in the world, and I called to mind that his treatment was morphin hypodermically. The candidate gave me a look of scorn. He told us that the practitioner of to-day realized the value of asepsis, and it was, he hoped, unnecessary to insist on it on every occasion. As regards Löhlein's twelve cases, he maintained that the number was insufficient on which to generalize, much less to attempt to formulate a treatment. Indeed, his own experience, as "*Unterarzt*" at the Frauenklinik, was much greater than Löhlein's, and for that reason, if for no other, he must persist in his demand for immediate delivery in those cases. Under this denunciation all I could do in reply was to acknowledge the candidate's contention.

When all three opponents had been vanquished the candidate asked if any one else had anything to say against his propositions. He stared his friends on either side of the room boldly in the face, but no one ventured a word. The candidate with an air of triumph then bowed to the dean, who ascended the pulpit and called the candidate to him to administer the Hippocratic oath. This completed, the dean made some more remarks in Latin—undoubtedly felicitous in character—and presented the diploma. The candidate replied with more choice Latin, in which I understood that he was bidding good-bye to the dean, the university and the assembled guests. The dean now offered his congratulations and retired while the candidate —now a candidate no longer, but a full-fledged M.D.—received the good wishes of those present.

The diploma does not entitle the recipient to practice. Indeed, among the Germans it is an honor and not a necessity. The essential thing is to have passed the "*Staatsexamen*." The German student is a graduate of a gymnasium or "*Realschule*" and matriculates as described. He studies first anatomy, physiology, chemistry, physics, botany and zoology for at least four semesters and then applies for examination in these branches. He must show that he has passed this "*physicum*"—which is an oral examination—before he can attend clinical lectures. At the beginning of the tenth semester the student may apply to the government for permission to take the "*Staatsexamen*." He must show in addition to his attendance on lectures nine "*Praktikantenscheine*," that is, certificates that he has stood the quiz before the class to the satisfaction of the professor. Two of these certificates must be in obstetrics and gynecology, two in surgery, two in internal medicine, one in children's diseases, one in ophthalmology, and one in vaccination. It is rumored that a tenth certificate—the subject not announced—will soon be required. The "*Staatsexamen*" is an oral examination and very difficult. It is usual to examine three days in each subject, and it takes about six months to complete. The title received is "*Praktischer Arzt*," or practicing physician, and is a license to practice. If the "*Doktorwürde*," or degree of M.D., is also desired the applicant must write "*Arbeit*" and "*promovieren*," but the commission that now examines him orally is composed of three instead of five members of the faculty.

92 State Street.

Marriages.

JOHN G. CRAIG, M.D., to Miss Alma Willett, both of Chicago, September 16.

J. J. DALLAL, M.D., to Miss Ellen Collins, both of Norcatur, Kan., September 2.

EVLAN SARGENT, M.D., to Miss Winnie Compton, both of Moline, Ill., September 9.

JAMES M. BLAINE, M.D., to Mrs. Ida Ladair Green, both of Denver, Colo., September 16.

GEORGE D. MORTON, M.D., Philadelphia, to Miss Josephine H. Griswell of Norwood, Pa., June 30.

REIN K. HARTZELL, M.D., Allentown, Pa., to Miss Jennie A. Kuntz of Treichlers, Pa., September 15.

JOHN HENRY SIEDLER, M.D., Buffalo, N Y.., to Miss Theresa Marie Brick, at Brantford, Ont., September 9.

LEONARD E. WELCH, JR., M.D., Albany, Ga., to Miss Frances Laundis of Alabama, at New York City, September 9.

CHARLES F. CULVER, M.D., Sioux Falls, S. Dak., to Miss Grace Isabel Cameron, of St. Paul, Minn., September 2.

BEN PERLEY WEAVER, M.D., to Miss Lucile Porter, daughter of Dr. Miles F. Porter of Fort Wayne, Ind., September 16.

WILLIAM JORDAN TAYLOR, M.D., Cincinnati, son of Dr. William H. Taylor, to Miss Katharine Warren Weston of New York City, at Cascade-in-the-Adirondacks, N. Y., September 16.

Deaths.

Robert Newman, M.D. Long Island College Hospital, Brooklyn, 1863, for many years a member of the American Medical Association, and of the New York State and County Medical associations, died suddenly at his country residence, Monument Beach, Mass., August 28. He was an honest, painstaking and indefatigable worker in the field of electrotherapeutics, and suffered not a little for his persistent advocacy of the treatment of urethral stricture by electrolysis. During the past year his friends had noticed with regret that his health and strength were on the wane, but he would not listen to their admonitions, and insisted on working to perfect the arrangements for the meeting of the American Electrotherapeutic Association. Even gout and dysentery could not curb his will, and he continued to attend to his practice until his wish to "die in harness" was gratified, for his death came to him while he was sitting in his office chair.

Hugh Morrison Lash, M.D. Cincinnati College of Medicine and Surgery, 1870, professor of mental and nervous diseases in the Central College of Physicians and Surgeons, Indianapolis; consulting physician to the Union State Hospital; member of the American Medical Association, Indiana State Medical Society, Marion County Medical Society, and some-time president of the Indianapolis Medical Society, and a member of the city board of health, died from cardiac asthma at his home in Indianapolis, September 19, after a long period of ill health, aged 59. At a special meeting of the Indianapolis Medical Society, September 20, eulogistic resolutions were adopted.

Samuel Hollingsworth Stout, M.D. University of Pennsylvania, Philadelphia, 1848, surgeon and medical director of hospitals of the Department of Tennessee in the Confederate service during the Civil War, some-time professor of surgical and pathologic anatomy in Atlanta Medical College, and at the time of his death emeritus professor of medicine in Baylor University College of Medicine, Dallas, died at his home in Clarendon, Texas, September 18, aged 81. The Dallas County Medical Society, at a specially-called meeting, appointed pallbearers and committees on resolutions and flowers.

Luther Martin Irwin, M.D. Rush Medical College, Chicago, 1882, of Lafayette, Ind., a member of the Indiana State Medical Society, and once vice-president of the Tippecanoe County Medical Society, died suddenly from heart disease in the office of Dr. Richard B. Wetherill in that city, September 17, aged 48. The Tippecanoe County Medical Society, at a special meeting, September 18, pronounced eulogies on Dr. Irwin and appointed committees on resolutions and flowers.

Andrew H. Kimbrough, M.D. Jefferson Medical College, Philadelphia, 1858, a charter member of the Vermilion County Medical Society, and a member of the Illinois State Medical Society

for many years, died at his home in Danville, Ill., September 17, after an invalidism of two years, aged 70.

Isaiah D. Morgan, M.D. University of Pennsylvania, Philadelphia, 1858, a surgeon in the Confederate service during the Civil War, and local surgeon of the Alabama Great Southern Railway, died at his home in Eutaw, Ala., September 17, after an illness of more than a month, aged 73.

Charles Gardiner, M.D. Jefferson Medical College, Philadelphia, 1879, a member of the American Medical Association and a prominent surgeon of Emporia, Kan., died suddenly from heart disease while performing an operation in Emporia, September 24.

Eli Edwards Josselyn, M.D. New York University, 1873, a physician in the woman's department of the Pennsylvania Hospital for the Insane, Philadelphia, died suddenly in a corridor of that institution, September 13, from heart disease, aged 57.

William M. Cox, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1860, a member of the American Medical Association, died at his home in Mount Sterling, Ill., September 14, from persistent hiccough, after an illness of one week, aged 65.

Egbert Guernsey, M.D. New York University, 1846, New York City, for many years editor of the *Medical Times*, died at his summer home in Fishkill Landing, N. Y., September 19, from bronchopneumonia, after an illness of five days, aged 80.

Benjamin G. Kimmel, M.D. Miami Medical College, Cincinnati, 1870, of Youngstown, Ohio, died at the City Hospital, Youngstown, September 19, from skull fracture received in a fall from his bicycle the day before, aged 62.

John K. Dick, M.D. Rush Medical College, Chicago, 1890, formerly of Champaign, Ill., died at his home in Lincoln, Ill., September 20, from typhoid fever, after an illness of three weeks, aged 49.

James S. Hall, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1875, was found dead in his store at Manville, Wyo., September 16, supposedly from the effects of an overdose of morphin.

Franklin N. Morton, M.D. Eclectic Medical Institute, Cincinnati, 1871, died from brain disease at his home in Little Cooley, Pa., September 19, after an illness of ten days, aged 68.

John C. Rhoden, M.D. Rush Medical College, Chicago, 1896, of Elk Point, S. Dak., a member of the American Medical Association, died in a hospital at Council Bluffs, Iowa, September 19.

R. Howard Edmonston, M.D. University of Buffalo, Brooklyn, N. Y., died at the Kingston Avenue Hospital, Brooklyn, September 8, from diphtheria, after an illness of four days.

William Taliaferro, M.D. of Tappahannock, Va., died at the University Hospital, Baltimore, September 17, from diabetes, which appeared after an operation for carbuncle, aged 58.

Will Stephens, M.D. Barnes Medical College, St. Louis, son of Dr. Andrew J. Stephens, died in his father's office, September 21, from the effects of morphin taken with suicidal intent.

Warren H. Blood, M.D. Cooper Medical College, San Francisco, 1885, died at his home in West Oakland, Cal., September 12, from pneumonia, after an illness of two weeks, aged 39.

John A. Draughon, M.D. Bellevue Hospital Medical College, New York, 1875, of Nashville, Tenn., died at the home of his daughter in Springfield, Tenn., September 18, aged 49.

Myron S. Brownson, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1871, died at his home in Kingsley, Mich., September 20, after a lingering illness, aged 58.

Robert Bruce Shaw, M.D. McGill University, Montreal, 1896, of Charlottetown, P. E. I., died September 13 at the Massachusetts General Hospital, Boston, from appendicitis.

Charles S. Williamson, M.D. University of Maryland, Baltimore, committed suicide by taking poison at Winifred, Kanawha County, W. Va., September 15, aged 26.

Theodore Hartwig, M.D. University of Marburg, Germany, 1845, who came to Cedarburg, Wis., in 1846, died at his home in that place, September 20, aged 83.

A. S. Hayley, M.D. Louisville Medical College, 1883, of Yakima City, died at the North Yakima Hospital, September 9, after a long illness, aged 40.

Thomas J. Barton, M.D. Albany (N. Y.) Medical College, 1855, of Tivoli, N. Y., died at the Albany City Hospital, September 11, aged 73.

Joseph Bechtel Mintzer, M.D. Medico-Chirurgical College, Philadelphia, 1891, died at his home in Philadelphia, September 18, aged 48.

Bennie E. Grove, M.D. Kansas City (Mo.) Medical College, 1900, died at his home in Augusta, Okla., September 9, from typhoid fever.

Wesley M. Landon, M.D. Cincinnati College of Medicine and Surgery, 1863, died at his home in Quincy, Ill., September 11, aged 75.

Murdock McLean, M.D. University of California, San Francisco, died September 13 at Placerville, Cal., from fever.

Deaths Abroad.

Dr. Matheus dos Santos, professor of hygiene and president of the medical faculty of Bahia, Brazil, died in Berlin last month.——**Dr. V. V. Muravieff,** an eminent Russian neurologist, died at Moscow, August 20.

Miscellany.

Five-Cent Novel Medicine.—In a "powerfully written and graphically portrayed" story for boys, price five cents, entitled "The Knowlhurst Mystery, or the Strange Adventures of Leslie Norton," appears the following choice bit:

When the doctor had declared that he was too late, he really believed Peter Norton to be dead.
The little clot of blood which had formed on the base of the brain had so numbed him that coma, like unto death, had set in.
A very slight movement of the muscles of the neck caused the doctor to try an experiment.
He had with him a little pellet of nitroglycerin.
It was a new invention, and the physician trembled at the consequences of using it.
It might destroy the little vitality left, or, on the other hand, it would, perhaps, give life and power to the heart.
In Norton's case, the doctor felt safe in using it, for he was convinced nothing short of the almost miraculous could restore him to life.
He opened the old man's teeth, and placed the pellet on his tongue.
There was no attempt made at swallowing it.
A small quantity of whiskey, poured gradually on the tongue, caused the pellet to glide softly down the throat.
Presently the effect was seen.
The nitroglycerin had dissolved; the shock was felt in every part of the body.
Norton's face became purple, then gradually the blood diffused itself over his body; the shock had dispelled the clot. He opened his eyes and looked around; then closed them, and fell into a calm sleep.

Medical organization in the United States has at last made a movement that will only result in a most satisfactory success, says the *Southern Practitioner*. Since the grand meeting at New Orleans quite a number of states that were hanging back, hesitatingly, doubtingly, as if the movement was one possibly to result in binding them to means and measures that were not calculated to result in general good, have accepted the method of reorganization as suggested, of making the county membership the unit of representation. By the plan now satisfactorily demonstrated to be the only correct and practical one, we have a definite representative body, controlled by the membership of the profession at large through their duly qualified and selected representatives in their state organizations; those in their turn selecting the representatives in the National organization, to whom is entrusted the welfare, individually and collectively, of the profession. In our own state, since the annual meeting held in this city, quite a number of counties have placed themselves in line, and fifty-two county medical societies, composed of the best and most representative men in their respective localities, have been chartered as regularly affiliated and component societies of the State Medical Association. This has so far resulted in increasing more than three-fold the membership in the state organization; and with the work that will be carried on during the months intervening between now and the next annual meeting, we have every reason to believe that but few, if any, counties in the state will fail to affiliate with and be represented in the state association. Furthermore, in counties in which a fair organization had previously existed, there has been quite an accretion of membership. To our friends in this state, as well as in others, we would respectfully but earnestly say—organize! *organize!!* yes, ORGANIZE!!! If you have no organization in your county, at once take steps to get one properly under way. If you have a county organization, and it has not yet properly affiliated with your state organization, see to it that it does so before the next annual meeting; and if you *have* a properly organized and affiliated

county medical society, do not let your efforts rest here, but go on with the work, and induce any reputable member of the profession within your acquaintance to join you and your associates. Individual work with your clientele, in your library, in your laboratory, at the bedside of your patients, is all very well; yet a little time given to your county, state and National organizations will benefit both you and your patients in many ways. It is a duty you owe to yourself, to the profession of which you are a member, and to your patrons. No man has a greater necessity for organization and conference with his fellows than the physician. No one can be greater benefited thereby. If medical science and medical and surgical success depended alone on empiricism, each one might flock by himself, and the most successful would be the one with the best memory to remember and utilize the uncertain methods and measures of the empiric. Yet how much grander, how far more beneficent results will accrue to each and every one, and those relying on them, if each one from day to day brings his grains of observation and place them in a granary to which all have access. Again we say, organize in your counties, hold your meetings weekly, semi-monthly, monthly, quarterly or semi-annually, the oftener the better, and if but two or three are gathered together at each meeting, only good can come from your conference, and others will soon be induced to follow the good example you set them. One question we would ask—and its answer will be as strong an argument for organization as could be desired—whether you have been a member of the medical profession one year or fifty years—you know something about the standing of other medical men—then, who occupy the best, the most enviable, the most satisfactory position socially or professionally? Now just take a look around—and whether it be far or near—in the great metropolitan centers of the nation, in the larger towns and cities of your state, do you not find at the head of the profession men who are identified with medical associations? Whether in county, state or National association you will find the cream of the profession—its most progressive, its most successful members—if they can see a benefit therein, why not you?

Book Notices.

A Nurse's Handbook of Obstetrics. For Use in Training Schools. By Joseph Brown Cooke, M.D., Fellow of the New York Obstetrical Society. Cloth. Pp. 391. Price, $2.00. Philadelphia and London: J. B. Lippincott Company. 1903.

The author has endeavored to bring together the principal points that the monthly nurse must know, or ought to know, to make herself an efficient helper. The illustrations are good and the instructions given seem to us in the main sensible and complete.

My Child and I. In Sickness and Health from Pre-natal Life Until Sixteen. By Mrs. F. L. S. Aldrich, M.D., Member of the American Medical Association. Cloth. Pp. 429. Price, $1.50. Philadelphia: P. W. Ziegler & Co. 1903.

This is a book for the laity. The statements made seem to be in the main fairly correct, and the book may be taken, in general, as a fairly reliable guide for parents. The only difficulty is that it may lead to too much home treatment, to the child's disadvantage. The book is rather showily gotten up and has some moderately good pictures. Its style is good.

Quantitative Chemical Analysis. Adapted for Use in the Laboratories of Colleges and Schools. By Frank Clowes, D.Sc. Lond., Emeritus Professor of Chemistry in the University College, Nottingham, and S. Bernard Coleman, A.R.C.Sc. Dublin, Professor of Chemistry in the Southwestern Polytechnic, Chelsea, S. W. Sixth Edition. Cloth. Pp. 602. Price, $3.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

In this new edition of Clowes and Coleman's well-known work on quantitative analysis numerous alterations and additions have been made in the text. The section on organic chemistry has been revised and the processes of determining molecular weight by the elevation of the boiling point and for the analysis of aluminium alloys have been added. New woodcuts illustrative of the above molecular weight determination process, a new form of container and of the method of drying in vacuo have been inserted. Tables of four-figure logarithms have also been introduced to facilitate calculation.

A Text-Book of Surgical Principles and Surgical Diseases of the Face, Mouth and Jaws. For Dental Students. By H. Horace Grant, A.M., M.D., Professor of Surgery and Clinical Surgery, Hospital College of Medicine. Octavo Volume of 231 Pages, with 68 Illustrations. Cloth. Price, $2.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This little work was written for the dental student. The author makes no claim to original thought, nor does he present an elaborate or scientific discussion of the subjects considered. About one-third of the work is devoted to surgical principles; bacteriology, inflammation, repair, general infections, etc. Then follows a brief description of the various affections of the face, mouth, jaws and neck, presented in a plain, simple manner, such as would interest the dental student, for whom the work was written. It is not comprehensive nor scientific enough to be of material value to the surgeon.

The Exact Science of Health Based Upon Life's Great Law. By Robert Walter, M.D. Vol. I.—Principles. Leather. Pp. 302. Price, $2.00. New York: Edgar S. Werner Publishing Company. London: Kegan Paul, Trench, Trubner & Co., Ltd.

There are books that are published for various purposes; in many cases the author gets so full of the subject that it is woe to him if he does not preach his gospel with the aid of printer's ink. The present work probably gives much more satisfaction to the author than it will to the average reader. The main point which he apparently tries to make is that there are three great forces in nature, vitality, chemical affinity and gravitation, co-existent and analogous. In this way he is practically a sort of materialist; we can not say that he has proven his case, or that his arguments and reasoning are such as would convince others as to the probability of his views.

A Thesaurus of Medical Words and Phrases. By Wilfred M. Barton, M.D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C.; and Walter A. Wells, M.D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D. C. Flexible Leather. Pp. 534. Price, $2.50 net; with Thumb Index, $3.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The value of a volume like this for the physician who writes is so evident that it is a little remarkable that one has not been produced before. The authors have given a very complete list of technical synonyms, and the book will be correspondingly of service. It is neatly gotten up and is evidently the result of a good deal of careful labor. Worthy of note is its dedication to Dr. John B. Hamilton, the late editor of The Journal, as an appreciation of the services which he rendered the authors and as a tribute to his learning and skill. We believe that the book will be a very useful one.

The Latin Grammar of Pharmacy and Medicine. By D. H. Robinson, Ph.D., Late Dean of the School of Arts, and Professor of Latin Language and Literature, University of Kansas. With an Introduction by L. E. Sayre, Ph.M., Professor of Pharmacy in, and Dean of Department of Pharmacy, University of Kansas. Fourth Edition, with Elaborate Vocabularies. Thoroughly Revised by Hannah Oliver, A.M., Assistant Professor of Latin, School of Pharmacy, University of Kansas. Cloth. Pp. 277. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

This is a useful work for physicians and pharmacists. Its study will help do away with the mistakes too often made which show such a lack of culture in the humanities, as they used to be called. The editor states in his preface that a chapter on prescription writing is contributed by Professor Sayre, as well as a list of pharmaceutical and medical terms with their definitions. The latter we find, but the chapter on prescription writing is apparently confined to only a few paragraphs in a chapter on other subjects. A full treatment of the subject would have added to the value and completeness of the book. Aside from this point we see little to criticise. The volume will be a useful one for many students of medicine and pharmacy.

A Text-Book of Chemistry. For Students of Medicine, Pharmacy and Dentistry. By Edward Curtis Hill, M.S., M.D., Medical Analyst and Microscopist; Professor of Chemistry and Metallurgy in the Colorado College of Dental Surgery. With 78 Illustrations, Including 9 Full-Page Half-tone Colored Plates. Pp. xii-523. Cloth. Price, $3.00 net. Philadelphia: F. A. Davis Company.

This book of 523 pages includes the subjects of medical physics, chemic philosophy, inorganic chemistry, organic chem-

istry, qualitative and quantitative analysis, incompatibility, sanitary chemistry, toxicology, physiologic chemistry, pathologic chemistry, clinic chemistry, not to mention an appendix and a glossary. The various topics are not handled with any great degree of completeness; as a matter of fact, the attempt to condense has in many instances seemed to be at the expense of lucidity. It is stated that it is intended for the use of students of medicine, pharmacy and dentistry; it is certainly not adapted for a student desiring much more than a quiz-compend knowledge of the subject. As a condensation of the subjects it covers, however, it seems quite complete and accurate. Modern work on physical chemistry seems to have been slighted.

DISEASES AND INJURIES OF THE EYE, with Their Medical and Surgical Treatment. By George Lawson, F.R.C.S. Eng., Surgeon-Oculist-in-Ordinary to Her Majesty, the Late Queen Victoria. Sixth Edition, with 249 Illustrations. Revised and, in Great Measure, Rewritten. By Arnold Lawson, F.R.C.S. Eng., Assistant Surgeon to the Royal London Ophthalmic Hospital. Cloth. Pp. 587. Price, about $5. London: Smith, Elder & Co. 1903.

It seems appropriate that this well-known text-book should be continued by a relative of the great ophthalmologist who first wrote it. The fifth edition was published in 1885, since when several additions have been made to the original chapters. In the present work fresh articles have been written on heterophoria, affections of the eye in disease of the nervous system, the pupil, the development of the eye and elementary optics. Gradually the fact that anomalies of the extrinsic ocular muscles may be productive of functional disturbances without apparent deviation of either eye is gaining ground even in conservative England. Whatever be the status of heterophoria in the causation of symptoms, near and remote, it is at least a considerable satisfaction to notice that this latest of the British text-books does not neglect even the subject of cyclophoria, a condition whose pathology Savage has done so much to elucidate, but which has not received that recognition its importance deserves. We regret that no reference has been made to several instruments which we are accustomed to use on this side of the Atlantic; among them the electric ophthalmoscope and the ophthalmometer with the self-illuminating mires. The illustrations are entirely in black, but are unusually well drawn and, especially when they depict minute changes in the fundus or elsewhere, are, in consequence, more valuable than those glaring color patches that so often in some treatises misrepresent ophthalmoscopic and other findings. The formulæ (seventy in all) at the back of the book, fairly represent the best of the ordinary remedial mixtures now used in diseases of the eye. Probably it is because they have not as yet reached the "text-book age" that dionin, argyrol, jequiritol, and other agents (which some of us believe to be of considerable value) have not been mentioned.

BREWER'S SURGERY. A Text-Book of Surgery for Students and Practitioners. By George E. Brewer, A.M., M.D., Lecturer on Clinical Surgery at the College of Physicians and Surgeons (Medical Department of Columbia University), New York. With 280 Engravings and 7 Plates in Colors and Monochrome. Cloth. Pp. 712. Price, $4.00. Philadelphia and New York: Lea Brothers & Co. 1903.

The author has attempted to write a text-book on surgery in a single small volume of six hundred and eighty pages. The author says he "has endeavored in the present work to give the essential facts in practical surgery as briefly as is compatible with clearness." While brevity and condensation in writing are often desirable qualities, there is such a thing as condensing matter until all the information which it contains is squeezed out, and that is what the author has done frequently in this work. For instance, the subject of gangrene in all its varieties is covered in twenty lines. Only seventeen pages are devoted to "tumors," and as there are several large illustrations included in these seventeen pages, the text amounts to little more than a simple definition of the various kinds of new growths. Under treatment of aneurisms is mentioned "the subcutaneous injection of a 1 per cent. solution of gelatin in normal salt solution," but nothing is said of the amount to be injected; of the necessity and great difficulty of thoroughly sterilizing gelatin solutions, and of the danger of fatal tetanus (which has occurred now a number of times) following the use of solutions of gelatin not properly sterilized. In a matter of this kind the advice to use a solution of gelatin without giving the details of the method is positively dangerous, and brevity becomes a great mistake. Ganglion is described as "a hernial protrusion of the synovial membrane through the fibrous portion of a tendon-sheath." This is a mistake, as the majority of so-called ganglions have no connection whatever with the tendon sheaths. The spasmodic and the contractured varieties of torticollis are confused and considered as one affection, although they are decidedly distinct conditions. The treatment of empyema is dismissed with a single sentence as follows: "The treatment of empyema is by establishing free drainage of the pleural cavity." The success of the treatment, however, depends so much on the method and detail of carrying it out that a little advice here would have been desirable. The freezing point of the blood serum is given as 0.36 C. This is evidently a typographical error, as it should be 0.56 C. Ligations of arteries, amputations, etc., are considered in the stereotyped way, except perhaps a little more condensed. Brevity is the greatest fault of the work, as many of the subjects are considered so superficially that the practitioner will usually look in vain for advice that will help him out of his difficulties, but to the student who is obtaining his first general idea of surgery the work may prove of value.

State Boards of Registration.

Indiana's First Preliminary Examination of Students.—The first examination of prospective medical students held by the Indiana State Board of Medical Registration, was held at the State House, Indianapolis, September 18; 15 applicants appeared.

Texas Announcement.—The Board of Medical Examiners for the State of Texas will hold its next meeting in Fort Worth, Oct. 13 to 16, for the examination of applicants to practice medicine. For further information address the secretary, Dr. M. M. Smith, Austin.

Georgia Examination.—The regular board of State Medical Examiners for Georgia will meet in Atlanta, Ga., on Tuesday, Oct. 13, 1903, at the Capitol, for examination of applicants for permanent license. A diploma from a medical college recognized by the Medical College Association is required.

Virginia Report.—Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports that at the examination held at Richmond, June 22 to 25, 1903, the number of subjects examined in was 9 and the percentage required to pass was 75; 196 persons were examined, 99 passed, 22 failed, 3 withdrew and 72 were not graduates and took only a partial examination. The questions were partly written and partly oral.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
1	R.	University College of Medicine	1903	81
7	R.	University College of Medicine	1903	83
25	R.	University College of Medicine	1903	77
27	R.	University College of Medicine	1903	80
28	R.	University College of Medicine	1903	82
29	R.	University College of Medicine	1903	75
31	R.	University College of Medicine	1903	79
32	R.	University College of Medicine	1903	83
33	R.	University College of Medicine	1901	78
45	R.	University College of Medicine	1903	76
67	R.	University College of Medicine	1903	79
68	R.	University College of Medicine	1903	81
70	R.	University College of Medicine	1903	80
74	R.	University College of Medicine	1903	76
75	R.	University College of Medicine	1903	83
77	R.	University College of Medicine	1903	75
80	R.	University College of Medicine	1903	82
90	R.	University College of Medicine	1903	75
98	R.	University College of Medicine	1903	78
99	R.	University College of Medicine	1903	78
102	R.	University College of Medicine	1903	82
122	R.	University College of Medicine	1903	84
125	R.	University College of Medicine	1903	82
130	R.	University College of Medicine	1903	85
151	R.	University College of Medicine	1903	87
158	R.	University College of Medicine	1903	76
159	R.	University College of Medicine	1903	76
194	R.	University College of Medicine	1903	81
179	R.	University College of Medicine	1903	81
11	R.	University of Boston	1903	80
62	R.	University of the South	1903	79
76	R.	University of the South	1900	76
165	R.	University of the South	1903	75
166	R.	University of the South	1903	75
185	R.	University of the South	1903	77

PASSED.

Candi date.	Schl. of Pract.	College.	Year Grad.	Per Cent.
66	R.	University of Maryland	1903	85
196	R.	University of Maryland	1867	85
124	R.	University of Maryland	1903	85
88	R.	University of Virginia	1903	83
91	R.	University of Virginia	1901	75
93	R.	University of Virginia	1903	80
94	R.	University of Virginia	1903	79
96	R.	University of Virginia	1903	77
103	R.	University of Virginia	1903	79
104	R.	University of Virginia	1903	83
109	R.	University of Virginia	1903	85
123	R.	University of Virginia	1903	79
126	R.	University of Virginia	1903	79
138	R.	University of Virginia	1903	85
144	R.	University of Virginia	1903	82
174	R.	University of Virginia	1898	82
177	R.	University of Virginia	1899	82
178	R.	University of Virginia	1899	87
86	R.	University of Virginia	1903	76
142	R.	University College of Virginia	1903	75
181	R.	University of New York	1897	77
182	R.	University of New York	1889	77
195	R.	University of Michigan	1903	80
3	R.	Medical College of Virginia	1903	80
14	R.	Medical College of Virginia	1903	79
15	R.	Medical College of Virginia	1903	81
54	R.	Medical College of Virginia	1903	81
134	R.	Medical College of Virginia	1903	80
135	R.	Medical College of Virginia	1903	77
136	R.	Medical College of Virginia	1903	80
137	R.	Medical College of Virginia	1903	81
152	R.	Medical College of Virginia	1903	76
153	R.	Medical College of Virginia	1903	79
155	R.	Medical College of Virginia	1903	78
156	R.	Medical College of Virginia	1903	84
161	R.	Medical College of Virginia	1903	79
163	R.	Medical College of Virginia	1903	79
167	R.	Medical College of Virginia	1903	84
168	R.	Medical College of Virginia	1903	81
170	R.	Medical College of Virginia	1903	79
173	R.	Medical College of Virginia	1903	79
8	R.	Columbian University	1903	84
30	R.	Columbian University	1903	89
71	R.	Columbian University	1903	81
9	R.	North Carolina Medical College	1902	80
12	R.	Howard University	1902	79
107	R.	Howard University	1903	78
13	R.	Leonard Medical College	1896	75
19	R.	Leonard Medical College	1903	79
140	R.	Leonard Medical College	1903	77
145	R.	Leonard Medical College	1903	75
23	R.	Johns Hopkins University	1903	77
191	R.	Johns Hopkins University	1902	85
41	R.	Tulane University	1903	87
81	R.	Maryland Medical College	1903	77
84	R.	Maryland Medical College	1903	78
133	R.	Maryland Medical College	1903	78
95	R.	Baltimore University	1898	80
114	R.	College of Physicians and Surgs., Atlanta	1903	81
176	H.	Hahnemann Med. College, Pennsylvania	1894	82
187	R.	University of Louisville	1889	78
189	R.	Cincinnati College of Med. and Surgery	1876	75
190	R.	Louisville Medical College	1890	81
193	R.	College of Phys. and Surgs., Baltimore	1878	75

FAILED.

10	R.	University College of Medicine	1903	73
44	R.	University of Virginia	1903	74
78	R.	University of Virginia	1902	74
110	R.	University of Virginia	1900	73
160	R.	University of the South	1903	61
169	R.	University of the South	1903	71
141	R.	Maryland Medical College	1903	65
100	R.	Maryland Medical College	1903	..
16	R.	Columbian University	1902	74
17	R.	Medical College of Virginia	1903	74
52	R.	Medical College of Virginia	1903	72
154	R.	Medical College of Virginia	1903	72
157	R.	Medical College of Virginia	1903	74
172	R.	Medical College of Virginia	1903	74
36	R.	Leonard Medical College	1903	65
55	R.	Leonard Medical College	1902	71
106	R.	Leonard Medical College	1902	55
49	R.	Baltimore University	1903	58
97	R.	Baltimore Medical College	1901	70
118	R.	University of Maryland	1902	70
105	R.	University of Maryland	1903	74
188	R.	Louisville Medical College	1890	68

Connecticut Report.—The report of the examinations by the examining committee of the Connecticut Medical Society, July 14 and 15, is received. The percentages are not given; all that passed exceeded 75, those that failed were below this figure. Of those that passed 8 were graduates of the medical department of Yale University, 4 of the College of New York, 4 of the College of Physicians and Surgeons, New York, 4 of the Baltimore Medical College, 2 from Jefferson Medical College, 2 from the University of Vermont, and one each from the Cincinnati College of Medicine and Surgery, the Royal College of Physicians and Surgeons, London, Medical College of South Carolina, Harvard Medical College, New York University, Niagara University, Cornell University and Long Island College Hospital. Of those that failed 4 were from the College of Physicians and Surgeons, Baltimore, and one each from the College of Physicians and Surgeons, Boston, University of the South, Tufts Medical College, and the medical department of Yale University.

Iowa Report.—Dr. J. F. Kennedy, secretary of the Iowa State Board of Medical Examiners, Des Moines, reports that 149 candidates were examined in June and July, of whom 128 passed and 21 failed.

PASSED.

Candi- date.	Schl. of Pract.	College.	Year Grad.	Per Cent.
1	H.	Chicago Homeopathic Medical College	1903	89
2	H.	Chicago Homeopathic Medical College	1903	82
3	H.	Chicago Homeopathic Medical College	1903	‡75
4	R.	College of Phys. and Surgs., Chicago	1903	81
5	R.	College of Phys. and Surgs., Chicago	1903	79
6	R.	College of Phys. and Surgs., Chicago	1903	86
7	R.	College of Phys. and Surgs., Chicago	1903	89
8	R.	College of Phys. and Surgs., Chicago	1903	87
9	R.	College of Phys. and Surgs., Chicago	1903	80
10	R.	College of Phys. and Surgs., Chicago	1903	80
11	R.	College of Phys. and Surgs., Chicago	1903	83
12	R.	College of Phys. and Surgs., Chicago	1902	*85
13	R.	College of Phys. and Surgs., Chicago	1903	83
14	R.	College of Phys. and Surgs., Chicago	1903	76
15	R.	College of Phys. and Surgs., Chicago	1903	81
128	R.	College of Phys. and Surgs., Chicago	1903	81
16	R.	College of Phys. and Surgs., New York	1903	91
17	R.	Denver and Gross Medical College	1903	87
18	H.	Hahnemann Medical College, Chicago	1903	82
19	H.	Hahnemann Medical College, Chicago	1903	79
20	H.	Hahnemann Medical College, Chicago	1903	81
21	H.	Hahnemann Medical College, Chicago	1903	81
22	H.	Hahnemann Medical College, Chicago	1903	83
23	H.	Hahnemann Medical College, Chicago	1903	82
24	H.	Hahnemann Medical College, Chicago	1903	84
25	H.	Hering Medical College, Chicago	1903	*78
26	R.	Illinois Medical College, Chicago	1901	81
27	R.	Iowa College of P. and S., Des Moines	1903	82
28	R.	Creighton Medical College, Omaha	1903	80
29	R.	Creighton Medical College, Omaha	1903	79
30	R.	Creighton Medical College, Omaha	1903	83
31	R.	Creighton Medical College, Omaha	1903	82
32	R.	Keokuk, Iowa, Medical College	1903	*79
33	R.	Miami Medical College, Cincinnati	1902	87
34	R.	Milwaukee Medical College	1903	78
35	R.	Northwestern University, Chicago	1903	81
36	R.	Northwestern University, Chicago	1903	87
37	R.	Northwestern University, Chicago	1903	89
38	R.	Northwestern University, Chicago	1903	85
39	R.	Northwestern University, Chicago	1903	85
40	R.	Northwestern University, Chicago	1900	91
41	R.	Northwestern University, Chicago	1903	85
42	R.	Northwestern University, Chicago	1903	88
43	R.	Northwestern University, Chicago	1903	87
44	R.	Northwestern University, Chicago	1902	88
45	R.	Northwestern University, Chicago	1903	86
46	R.	Northwestern University, Chicago	1903	83
47	R.	Northwestern University, Chicago	1903	87
48	R.	Northwestern University, Chicago	1903	84
49	R.	Northwestern University, Chicago	1903	85
50	R.	Northwestern University, Chicago	1903	81
51	R.	Northwestern University, Chicago	1903	89
52	R.	Northwestern University, Chicago	1903	87
53	R.	Northwestern University, Chicago	1903	85
54	R.	Northwestern University, Chicago	1903	84
55	R.	Northwestern University, Chicago	1903	88
56	R.	Northwestern University, Chicago	1903	79
57	R.	Northwestern University, Chicago	1903	82
58	R.	Northwestern University, Chicago	1903	87
59	R.	Northwestern University, Chicago	1903	84
60	R.	Northwestern University, Chicago	1903	77
61	R.	Omaha Medical College	1902	83
62	R.	Rush Medical College, Chicago	1901	92
63	R.	Rush Medical College, Chicago	1903	90
64	R.	Rush Medical College, Chicago	1903	78
65	R.	Rush Medical College, Chicago	1884	82
66	R.	Rush Medical College, Chicago	1903	86
67	R.	Rush Medical College, Chicago	1903	87
68	R.	Rush Medical College, Chicago	1882	78
69	R.	St. Louis College of Phys. and Surgeons	1901	75
70	R.	St. Louis College of Phys. and Surgeons	1900	84
71	R.	Toronto University	1903	87
72	R.	University of Iowa, Iowa City	1903	82
73	R.	University of Iowa, Iowa City	1903	81
74	R.	University of Iowa, Iowa City	1903	86
75	R.	University of Iowa, Iowa City	1903	86
76	R.	University of Iowa, Iowa City	1903	79
77	R.	University of Iowa, Iowa City	1903	87
78	R.	University of Iowa, Iowa City	1903	86
79	R.	University of Iowa, Iowa City	1903	87
80	R.	University of Iowa, Iowa City	1903	84
81	R.	University of Iowa, Iowa City	1903	86
82	R.	University of Iowa, Iowa City	1903	87
83	R.	University of Iowa, Iowa City	1903	83
84	R.	University of Iowa, Iowa City	1903	86
85	R.	University of Iowa, Iowa City	1903	85
86	R.	University of Iowa, Iowa City	1903	84
87	R.	University of Iowa, Iowa City	1903	79
88	R.	University of Iowa, Iowa City	1903	83
89	R.	University of Iowa, Iowa City	1903	85
90	R.	University of Iowa, Iowa City	1903	81
91	R.	University of Iowa, Iowa City	1903	92
92	R.	University of Iowa, Iowa City	1903	88
93	R.	University of Iowa, Iowa City	1903	83
94	R.	University of Iowa, Iowa City	1903	80
95	R.	University of Iowa, Iowa City	1903	86
96	R.	University of Iowa, Iowa City	1903	82
97	R.	University of Iowa, Iowa City	1903	79
98	R.	University of Iowa, Iowa City	1903	85

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
99	R.	University of Iowa, Iowa City	1903	79
100	R.	University of Iowa, Iowa City	1903	89
101	R.	University of Iowa, Iowa City	1903	90
102	R.	University of Iowa, Iowa City	1903	82
103	R.	University of Iowa, Iowa City	1903	90
104	R.	University of Iowa, Iowa City	1903	86
105	R.	University of Iowa, Iowa City	1903	90
106	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	83
107	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	82
108	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	85
109	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	84
110	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	82
111	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	85
112	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	83
113	H.	Coll. Homeopathic Med., Univ. of Iowa.	1902	83
114	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	80
115	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	83
116	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	81
117	H.	Coll. Homeopathic Med., Univ. of Iowa.	1903	83
118	R.	University of Michigan	1902	92
119	R.	University of Michigan	1903	85
120	R.	University of Michigan	1903	88
122	R.	University of Michigan	1903	89
123	R.	University of Minnesota	1903	87
124	R.	University of Nebraska, Omaha	1903	82
125	R.	University of Nebraska, Omaha	1903	88
126	R.	University of Nebraska, Omaha	1903	81
127	R.	Washington University, St. Louis	1903	91

FAILED.

129	H.	Hahnemann Med. College, Kansas City.	1902	67
132	H.	Hahnemann Medical College, Chicago..	1903	73
130	R.	Keokuk, Iowa, Medical College	1895	33
134	R.	Keokuk, Iowa, Medical College	1903	*66
131	R.	Rush Medical College, Chicago	1900	55
133	R.	Meharry Medical College, Nashville	1895	68
135	R.	University of Nebraska	1903	71
138	R.	University of Iowa, Iowa City	1874	69
136	R.	Kentucky School of Medicine	1898	71
137	R.	Omaha Medical College	1903	69
139	R.	Creighton Medical College, Omaha	1903	66
140	R.	Barnes Medical College, St. Louis	1900	†62
146	R.	Barnes Medical College, St. Louis	1902	73
143	R.	Barnes Medical College, St. Louis	1903	70
141	R.	University College of Med., Kansas City	1902	*65
145	R.	University Med. College, Kansas City..	1903	42
149	R.	University Med. College, Kansas City..	1903	*72
142	R.	Iowa College of P. and S., Des Moines..	1903	*74
144	E.	Eclectic Medical Institute, Cincinnati..	1903	64
147	R.	St. Louis College of Phys. and Surgeons	1903	69
148	R.	College of Phys. and Surgeons, Chicago.	1899	73

* Second examination. † Fourth examination. ‡ Fifth examination.

Medical Organization.

Monroe County (Fla.) Medical Society.

By the efforts of Dr. Joseph N. Fogerty, Key West, councilor for the Fourth District, a reorganization of the old Key West Medical Society, which was organized in 1872, and discontinued in 1884, was effected with the following officers: Dr. Robert D. Murray, president; Dr. Emilio Rousseau, vice-president; Dr. G. R. Plummer, U. S. Navy, secretary, and Dr. Katharene W. Allee, treasurer, all of Key West.

Putnam County (Ohio) Medical Society.

At Ottawa, Ohio, on August 27, under the direction of Dr. Julius H. Jacobson, Toledo, councilor for the Fourth District, this society was organized with the following officers: President, Dr. John C. McClung, Leipsic; vice-president, Dr. C. F. Douglass, Kalida; treasurer, Dr. Warren F. Reed, Ottawa; secretary, Dr. Wiley D. Hickey, Leipsic, and board of censors, Drs. Charles E. Beardsley, Ottawa, Harry A. Lewis, Continental, and Dr. Alva L. Paul, Ottawa.

Pocahontas County (Iowa) Medical Society.

The physicians of Pocahontas County recently met at Pocahontas and organized a county society, adopted the constitution and by-laws as recommended by the American Medical Association and elected the following officers. Dr. Andrew L. Belt, Gilmore, president; Dr. Edmond W. Wilson, Rolfe, secretary and treasurer; Dr. I. D. Wallace, Plover, vice-president; Drs. A. H. Thornton and J. W. Starr, Pocahontas, and Frank E. Heathman, Havelock, censors, and Drs. Oscar H. Barthel, Pocahontas, Charles R. Whitney, Fonda, and J. D. Wallace, Plover, committee on public health and legislation.

South Dakota Second District Medical Society.

On September 15 about twenty-five physicians met Dr. Edwin T. Ramsey Clark, councilor for the Second District, at Watertown and completed the organization of a medical society for that district, which comprises the counties of Clark, Codington, Deuel, Hamlin, and part of Grant. The constitution and by-laws recommended by the American Medical Association were adopted and Dr. Edwin T. Ramsey, Clark, was elected president, and Dr. James B. Vaughan, Castlewood, secretary. Meetings will be held every two months, and the whole day will be devoted to the interests of the profession, the morning being taken up with clinics, the afternoon and evening being devoted to the reading and discussion of papers.

Societies.

COMING MEETINGS.

Colorado State Medical Society, Denver, Oct. 6-8.
Medical Association of the District of Columbia, Washington, Oct. 6.
Idaho State Medical Society, Boise, Oct. 8-9.
Mississippi Valley Medical Association, Memphis, Tenn., Oct. 7-9.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Oct. 13-15.
Vermont State Medical Society, Bellows Falls, Oct. 15-16.
New York State Medical Association, New York City, Oct. 19-22.
American Public Health Association, Washington, D. C., Oct. 26-30.
Hawaiian Territorial Medical Society, Honolulu, Nov. 7.
Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.

Colorado State Medical Society.—The annual meeting will be held in Denver, October 6, 7 and 8, under the presidency of Dr. William W. Grant, Denver.

Louisville Medical and Surgical Society.—At the annual meeting held September 21 Dr. Frank J. Kiefer was elected president; Dr. Irvin Abell, vice-president; Dr. A. Henry Falconer, treasurer, and Dr. William T. McKinney, secretary.

Union Meeting.—On September 15 the Cheshire County (N. H.) Medical Society, Franklin District (Mass.) Medical Society, Connecticut River Valley Medical Society and Windham County (Vt.) Medical Society held a joint meeting at East Northfield, Mass.

Carroll County (N. H.) Medical Society.—At the annual meeting held at Sanbornville, September 2, Dr. W. S. Davis, Sanbornville, was elected president; Dr. Ervin W. Hodsdon, Centerville, secretary, and Dr. Nathaniel H. Scott, Wolfboro, treasurer. The 1904 meeting will be held at Wolfboro.

Crawford County (Ill.) Medical Society.—At the meeting held in Robinson, September 10, Dr. Columbus Barlow, Robinson, presented a motion that the constitution be so amended that any legally registered physician in good standing in the county may be entitled to membership in the society. The matter was laid on the table until the next meeting.

Kankakee Valley District (Ind.) Medical Society.—At the fourth annual meeting held in North Judson, September 8, Dr. David J. Loring, Valparaiso, was elected president; Dr. John M. Ward, Kewanna, vice-president; Dr. George E. Hoffman, Rochester, secretary, and Dr. G. W. Thompson, Winamac, treasurer. The next meeting will be held in Hammond, December 8.

Association of Surgeons of the Pennsylvania Railway System.—At the annual meeting held in Fort Wayne, September 18, the following officers were elected: President, Dr. G. W. Thompson, Winamac, Ind.; vice-presidents, Drs. Montgomery Linville, Newcastle, Pa., and Clarence W. Coulter, Oil City, Pa., and secretary and treasurer, Dr. Richard J. Morgan, Van Wert, Ohio.

Houghton County (Mich.) Medical Society.—At the annual meeting held in Houghton, September 7, Dr. E. C. Dudley of Chicago delivered an address on "Some Practical Points in Gynecology," and the following officers were elected: Dr. Joseph E. Scallon, Hancock, president; Dr. Albert B. Simonson, Calumet, vice-president; Dr. James E. Hosking, Kearsarge, secretary, and Dr. A. G. McLeod, treasurer.

Mississippi Valley Medical Association.—The program for the entertainment of the members of the association at its meeting in Memphis, Oct. 7, 8, and 9, includes a trolley ride, a reception and ball and an old-fashioned Southern barbecue.—Dr. W. Britt Burns has been made chairman of the committee of arrangements, vice Dr. Edward C. Ellett, resigned.—The

Chicago members of the association will leave Chicago via the Illinois Central at 6:20 p. m. Tuesday, October 6.

Little Kanawha and Ohio Valley Medical Association.—At the annual meeting held in Parkersburg, September 3, the following officers were elected: President, Dr. Thomas A. Harris, Parkersburg; vice-presidents, Drs. Alexander J. Mitchell, Burning Springs, John H. Kelley, Parkersburg, and J. Riley McCollum, St. Mary's; treasurer, Dr. Charles W. Hudson, Parkersburg; secretary, Dr. Rolla Camden, Parkersburg, and assistant secretary, Dr. Steidger D. H. Wise, Parkersburg.

Washington County (Vt.) Medical Society.—The annual meeting was held at Montpelier, September 8. The following officers were elected: Dr. Myron L. Chandler, Barre, president; Dr. Walter D. Berry, Waterbury, vice-president; Dr. Orlando G. Stickney, Barre, secretary; Dr. Charles E. Chandler, Montpelier, treasurer; Drs. Carlos A. Shaw, Northfield, and Michael F. McGuire, censors, and Drs. Lester W. Burbank, Cabot, and Dr. V. C. Goodrich, Barre, delegates to the Vermont State Medical Society.

American Public Health Association.—The following railroad rates have been secured for the thirty-first annual meeting of this association at Washington, D. C., Oct. 26 to 30, 1903: In the New England, Trunk Line, Central and Southeastern territories the rate will be one and one-third fare, certificate plan, for the round trip. A certificate must be obtained from the ticket agent for each going ticket purchased and be presented to Dr. E. W. Reisinger for signature and vise of the special agent at the meeting. First-class tickets must be purchased direct to Washington, free fare one way. No stopovers en route will be granted. A charge of 25c. will be made on each certificate signed at the meeting. Arrangements with Canada and western territory have not been completed, but are expected to agree with rates granted as above. Tickets are on sale three days prior to date of meeting, good to return three days after closing date, Sundays excluded in each instance. At present the rate is one and one-third fare for the round trip, certificate plan, throughout the entire United States, except in territory west of Chicago and St. Louis, Peoria, and north of Missouri River. The committee expects to secure additional time extension on return tickets.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Sixteenth Annual Meeting, held in Chicago, Sept. 22-24, 1903.

The association met under the presidency of Dr. L. H. Dunning, Indianapolis.

DR. WILLIAM A. EVANS, Chicago, delivered an address of welcome on behalf of the local medical profession, which was responded to by President Dunning.

The New Officers.

The following officers were elected for the ensuing year: President, Dr. Walter B. Dorsett, St. Louis; vice-presidents, Drs. A. B. Miller, Syracuse, N. Y., and W. D. Haggard, Nashville, Tenn.; secretary, Dr. Wm. Warren Potter, Buffalo, N. Y., re-elected; treasurer, Dr. X. O. Werder, Pittsburg, Pa.

The time and place for holding the next annual meeting of the association were left to the executive council to decide.

Following are some points brought out in the principal papers read.

The Relation of the Colon to Abdominal Tumors.

A paper with this title was read by Dr. James F. Baldwin, Columbus, Ohio. The colon, while it is quite movable, has its mesocolon well fixed to the abdominal parietes. By inflating the colon, when necessary, by pumping air in at the anus, its relationship to abdominal tumors can be quite definitely determined, and this relationship will enable an accurate diagnosis of the tumor to be made in many cases in which such diagnosis would otherwise be impossible. This is particularly true in differentiating tumors of the spleen, pancreas, kidneys, liver, including the gall bladder, etc., from tumors originating in the pelvis or in connection with the small intestine and mesentery.

DISCUSSION.

DR. J. HENRY CARSTENS, Detroit, had seen cysts of the kidney which were attached to the left side and had extended down into the pelvis, pushing the colon and everything on to the right side, so that it was impossible to differentiate them from a cyst of the ovary.

DR. L. H. DUNNING, Indianapolis, described an echinococcus cyst of the pancreas, which was supposed to be a cyst of the kidney.

DR. BALDWIN said that 95 per cent. of tumors of the pancreas appear above the transverse colon; if at the tail of the pancreas, partly to one side: if at the head, the other side, while tumors of the kidney appear behind the colon. A tumor of the suprarenal capsule might be mistaken for a tumor of the tail of the pancreas, but not of the kidney substance itself, if the colon was fully distended.

Cesarean Section.

DR. M. STAMM, Fremont, Ohio, read a paper on "The Value of Vaginal Cesarean Section," giving to Dührssen of Berlin the credit for having introduced this valuable method and quoting the latter's list of indications and technic. The essayist stated that the majority of the 60 or more recorded cases of vaginal cesarean section were for cancer of the uterus, but the number performed for puerperal convulsions is increasing rapidly, and this trouble will furnish the chief indication in the future. Most authorities agree that rapid delivery is the most important measure to reduce the mortality in eclampsia.

THE LIMITATIONS OF CESAREAN SECTION.

In a paper with this title Dr. E. Gustav Zinke, Cincinnati, analyzed 88 cesarean sections, reported by fifty-two different authors since January, 1900. Out of 81 mothers 66 lived, 81.5 per cent. But by excluding the deaths of 5 of the mothers which were due to malignant disease, death taking place two months, four months, one year and two years respectively after the operation, 71, not 66, mothers lived, and the maternal mortality was 12.34 per cent. Of the 90 children born, 56 lived, but excluding 13 cases in which the result as to the child has been omitted, and the cases of death before the operation, etc., the immediate fetal mortality is reduced to 25.26 per cent. When two years ago the author advocated the adoption of cesarean section for certain cases of central placenta previa, there was quite a marked opposition, and but few supported the speaker in his recommendation of the operation for this always alarming obstetric complication. Much has been said and written against it since, and still to-day nearly every new text-book on obstetrics and other recognized authorities on this subject admit that cesarean section may be justifiable under favorable conditions in the class of cases of a placenta previa then referred to.

DISCUSSION.

DR. CHARLES S. BACON, Chicago, believes vaginal cesarean section is undoubtedly of great value, not only for cancer, but also in cases where cesarean section is indicated for other reasons, when there is no contraction of the pelvis, and no sepsis, as, for instance, in cases of premature detachment of the placenta, a complication which defies all reasonable treatment. In placenta previa, however, there would be the same objection that has always obtained in regard to the typical operation. The other means of treating placenta previa are so perfect, so far as the mother is concerned, that it would only be in the case of a very competent operator, and in probably rare instances, that this operation or the typical one would be chosen. When we come to puerperal eclampsia, there is ground for either one of the operations. He believes that there is a future for the vaginal operation in cases of puerperal eclampsia, particularly those that are very carefully selected.

DR. WALTER B. DORSETT, St. Louis, narrated a case of successful vaginal section and delivery for placenta previa lateralis. He believes that possibly the operation is more applicable in placenta previa cases than in cancerous disease.

DR. FREDERICK BLUME, Pittsburg, asked Dr. Dorsett whether he would advise incision of the cervix in cases of six months' gestation with placenta previa, and whether he would practice it in every case.

DR. DORSETT replied: Yes, judging by the experience I have had with this case.

DR. EDWIN RICKETTS, Cincinnati, advised administering veratrum before the anterior and posterior incisions are resorted to.

DR. J. HENRY CARSTENS said that when the gynecologist encounters a contracted pelvis, vaginal section is out of the question unless it is a case of five or six months' pregnancy. Where a woman has had a convulsion and then recovers consciousness, such a case requires premature slow delivery. If cancer is adherent to the pelvis, rectum and bladder, it requires cesarean section, as advocated by Dr. Zinke.

DR. RUFUS B. HALL, Cincinnati, emphasized the importance of early cesarean section to avoid infection, and cited a case in point.

DR. CHARLES L. BONIFIELD, Cincinnati, commended vaginal cesarean section in cases in which there is danger of infection in doing the suprapubic operation.

DR. JAMES F. BALDWIN, Columbus, Ohio, has made five, possibly six, cesarean sections since 1900 without maternal or fetal death. He heartily agreed with Dr. Zinke.

The Gilliam Operation.

DR. EDWARD J. ILL, Newark, N. J., has done Gilliam's operation 86 times, or in 68 per cent. of all cases operated on for retrodisplacements. There were no deaths; 51 cases have reported themselves as entirely well, 6 as markedly improved, and 4 as no better; 7 have become pregnant, and two have given birth normally; only 1 of the 4 reported as no better had a relapse of the malposition. This one was operated on again and an atrophy of the distal end of the round ligament discovered. Dr. Ill modified Dr. Gilliam's operation by not piercing the whole abdominal wall, fearing a weakness from which hernia might result. He separates the rectus abdominis from its anterior sheath and pierces the rectus muscle, the inner sheath, and the perineum, and progresses as taught by Dr. Gilliam, fastening, however, the round ligament to the posterior surface of the anterior sheath of the rectus muscle with chromicized catgut, thus leaving a strong fascia intact.

DISCUSSION.

DR. HERMAN E. HAYD, Buffalo, questioned whether it is necessary to open the abdominal cavity for uncomplicated retroversion. If there is a complicated condition, such as an adherent retroverted uterus, diseased tubes and ovaries, with probably diseased appendages, then it is all right to open the peritoneal cavity, although there is great danger attending it. It is not a question of mortality altogether, but of future complications, because as the result of opening this cavity adhesions will take place. He has been compelled to open the abdominal cavity and operate for obstruction of the bowels in three cases simply from an operation in which he had opened the peritoneal cavity and did conservative work on the tubes and ovaries.

DR. ALBERT GOLDSPOHN, Chicago, regarded the Gilliam operation as the next best thing to the Alexander for shortening the round ligaments, provided all of the indications could not be met through the inguinal canal. No operation, aside from shortening of the round ligaments through the inguinal canal, the so-called Alexander operation, had such a column of cases collected that had stood what he called the double test of pregnancy as had the Alexander.

DR. D. TOD GILLIAM, Columbus, Ohio, said that the results of pregnancy following this operation were gratifying to him as they must be to anyone who had adopted the method. He was receiving reports from medical men all over the country with reference to the occurrence of pregnancy after this operation, and with one or two exceptions the patients had passed through pregnancy without any more trouble than under ordinary circumstances.

Analysis of Common Causes of Death Following Pelvic and Abdominal Operations.

DR. JOSEPH PRICE, Philadelphia, said that post-operative complications and incomplete abdominal procedures perplex him more and more as he grows older, and give him the only mortality he now has in his cases. He told of operating on a case four months after an incomplete operation had been done in another hospital and finding a huge four-foot gauze towel anterior to the uterus. Post-operative sequelæ and deaths from gauze are very common. He is satisfied that they are thrice more common than from sponges. For a number of years he used sponges and valued them for clean work, for packing, or for a dry operation, and he believes viscera troubled him less than at the present time. He was then wholly ignorant of post-operative sepsis in his own work, and in that of his pupils. Had he now the time to take care of his sponges, he would go back to them, as highly as he values gauze. To his mind it is one of the most valuable materials in surgery. He spoke of the value of good nursing in the reduction of mortality rate.

A number of good operators attribute their low mortality wholly to the use of gloves. After adopting gloves he reduced his death rate to about nil, but his precautions were all redoubled. For example: After operating on a septic case, other operations were postponed for thirty-six to forty-eight hours.

Vaginal incisions and perforations favor a high mortality in later operations, made for the clean removal of the remaining pelvic pathology. Puriform tubes and ovaries, suppurating tubes and ectopic pregnancy seldom allow sufficient improvement in vital force and stamina to bear well the complete operation—suprapubic—after they have been incised through the vagina. Primarily they would all have been easy by complete methods and without mortality. The choice of method and material is of paramount importance to good work, and the suprapubic procedures, when complete and done early, drainage used when necessary, should, like the infrapubic, when done by one of the finished operators, like Jacobs, Segond or Pryor, give a mortality close to nil. He does a large number of vaginal hysterectomies for malignancy of the uterus, cervix or fundus, and for small fibroids without a death, and it is one of the easiest operations he is asked to do. In suppurative forms of tubal and ovarian disease he does not consider the vaginal route complete surgery, because the adherent omental and bowel adhesions and the diseased appendix are wholly neglected.

(To be continued.)

WASHINGTON STATE MEDICAL ASSOCIATION.

Fourteenth Annual Session, held at Spokane, Sept. 1-3, 1903.

The president, Dr. Charles McCutcheon, Tacoma, in the Chair.

Welcome.

About fifty physicians of the state were present at the opening session when Hon. W. F. Townsend delivered the address of welcome to the visiting members. The social features comprised a reception and dance at the Elks' Temple and a reception and musicale at the residence of Dr. and Mrs. N. Fred Essig.

Papers Read.

At the afternoon session of the first day papers were read by Dr. Guy S. Peterkin, Seattle, on "Acute Gonorrhea in the Male"; by Dr. Nathan M. Baker, Spokane, on "The Kidneys in Pregnancy"; by Dr. Park Weed Willis, Seattle, on "A Few Reasons for Early Operation in Gallstone Disease"; and by Dr. David DeBeck, Seattle, on "Rheumatic Chorioretinitis."

The second day was devoted to the reading and discussion of papers, prominent among which were "An Analytical Study of the Surgical Treatment in Prostatic Hypertrophy," by Dr. G. W. Hawley, Seattle; "Surgical Technic," by Dr. Elmer M. Brown, Tacoma; "The Pathology of Nephritis," by Woods Hutchinson, Portland, Ore., and "The Surgical Treatment of Bright's Disease," by Dr. Frantz H. Coe, Seattle.

A paper was read by Dr. Victor C. Vaughan, Ann Arbor, Mich., on "The Hygiene and Dietetic Treatment of Chronic Nephritis," which will appear in THE JOURNAL.

Typhoid Fever.

DR. VICTOR C. VAUGHAN, dean of the medical department of the University of Michigan, delivered an earnest and practical address, the central thought being that a pure water supply ensured to the state is better than anything else in the preven-

tion of typhoid. He urged his audience to see to it that its water supply is not contaminated. He said that the yearly deaths in the United States from typhoid fever numbered more than 50,000 and the cases more than half a million, causing an outlay estimated at more than $80,000,000. This sum, properly applied, said Dr. Vaughan, would forestall the appearance of the disease and would prevent many deaths and untold suffering now resulting from its ravages. He recommended that the Spokane officials secure absolute control of the water of the Spokane River and especially of that portion near the up-river plant. By so doing the city can control the water supply and ensure its purity. He dwelt on the contagious qualities of the disease and emphasized the fact that typhoid never appears except by infection, either direct or indirect, and that its prevention by careful watching of the water supply and other measures of less importance is far easier and better for the community than is disease eradication when it has once gained a foothold.

Resolutions Regarding Dr. Waughop.

The committee appointed for that purpose presented resolutions on the death of Dr. John W. Waughop, formerly of Chicago, who presided at the session held at Spokane in 1897, and who died on his way from Honolulu to the United States. The deceased was a prominent physician of Puget Sound, and had been a member of the state association almost from its beginning.

Election of Officers.

The following officers were elected: Dr. Frantz H. Coe, Seattle, president; Drs. William C. Cox, Everett, and George B. Wilson, Pullman, vice-presidents; Dr. James B. Eagleson, Seattle, treasurer; Drs. Elmer M. Brown, Tacoma, and Ralph N. Gordon, North Yakima, members of the judicial committee; Dr. Henry W. Dewey, Tacoma, delegate to the American Medical Association, and Dr. Robert L. Thomson, Spokane, alternate. Dr. Arthur H. Coe, Spokane, the secretary, has still two years to serve.

Next Meeting.

The invitation of the physicians of Seattle to hold the 1904 meeting of the society in that city was accepted.

ROCKY MOUNTAIN INTERSTATE MEDICAL ASSOCIATION.

Fifth Annual Session, held in Salt Lake City, Sept. 1-2, 1903.

The president, Dr. Charles H. Solier, Evanston, Wyo., in the Chair.

Welcome.

Gov. Heber M. Wells of Utah extended a hearty welcome to the society and paid an eloquent tribute to the medical profession. In the absence, on account of illness, of Dr. Alexander C. Ewing, Dr. Henry La Motte welcomed the association in behalf of the Salt Lake County Medical Society.

Program.

Among the notable papers on the program were a symposium on syphilis; papers on "Intubation" by Dr. Frank E. Waxham, Denver; "Treatment of Tuberculosis of the Lungs," by Dr. Edgar P. Hershey, Denver; "Operation for Chronic Nephritis," by Dr. Elias S. Wright, Salt Lake City, and "Volvulus of the Stomach," by Dr. Charles D. Spivak, Denver.

Banquet.

At the banquet held at the Commercial Club rooms about fifty physicians of the intermountain states were in attendance. Dr. Harry D. Niles, Salt Lake City, acted as toastmaster and toasts were responded to by Drs. Leonard Freeman, Denver, and Josiah N. Hall, Denver; R. Harvey Reed, Rock Springs, Wyo.; Donald Campbell, Butte, Mont.; Union Worthington, Salt Lake City; Samuel D. Hopkins, Denver, and Robert Levy, Denver.

Election of Officers.

The election of officers resulted as follows: President, Dr. Harry D. Niles, Salt Lake City; vice-presidents, Drs. Robert Levy, Denver, Colo., and T. J. McKenzie, Anaconda, Mont.; treasurer, Dr. Donald Kennedy, Denver; recording secretary, Dr. Henry La Motte, Salt Lake City, and corresponding secretary, Dr. George A. Moleen, Denver.

THE MEDICAL SOCIETY OF VIRGINIA.

Thirty-fourth Annual Session, held in Roanoke, Sept. 15, 16 and 17, 1903.

President, Dr. John N. Upshur, Richmond, in the Chair.

Welcome.

The first session of the society was held on the evening of September 15, when Mayor Cutchin, on behalf of the city of Roanoke, welcomed the visitors, and Dr. Merwin Branch, in behalf of the local profession, delivered the address of welcome. Dr. William S. Christian, Urbana, responded to the addresses of welcome in most pleasing style.

President's Address.

Dr. John N. Upshur, Richmond, devoted the greater portion of his address to reorganization. He referred to the report of the delegates from the society to the American Medical Association at the New Orleans meeting, and said that the society was now brought to the point where it would have to decide what action it would take regarding reorganization. The society had lived and prospered for many years and many of its older members were reluctant to see it relinquish any of its old landmarks. Still, the material interests of the profession and the future progress from a scientific standpoint demanded that the society should follow such a course as would not only increase its membership, but would give the profession of the state an influence in public affairs, especially those of a professional nature, and in the shaping of legislation which should make the organization a factor in the body politic to be not only felt but respected. Up to this time efforts to obtain legislation in matters of importance to the profession have met only such meager success as to be almost valueless, had been obtained by compromise or had been ignominious failures.

Report of the Delegates.

At the morning session on September 16 Dr. Stuart McGuire, Richmond, presented the report of the delegates to the American Medical Association. The committee states that the meeting was a great success, that the attendance was large, the scientific papers read of high order, the business of the Association satisfactorily transacted, and that the social pleasures were such as only New Orleans and her hospitable people could furnish.

Dr. McGuire then gave a summary of the principal proceedings.

Committee on Legislation.

Dr. George Ben Johnston, Richmond, made the report for this committee, endorsing the laws of the state governing the practice of medicine, which was enthusiastically received and a rising vote of thanks tendered the committee, which was instrumental in having passed the so-called "osteopath" bill.

New Constitution.

A great part of the time of the society was taken up by a spirited discussion on the adoption of a new constitution. This discussion, which was begun at the morning session of the second day, consumed the entire session of the afternoon and evening. Final action was postponed until the session of next year.

Advertising.

At its evening session the society decided that physicians might place business cards and advertisements of private hospitals in the newspapers.

Judiciary Committee.

Dr. Oscar Wiley, Salem, chairman of the Judiciary Committee, reported regarding Dr. Bittle C. Keister, Roanoke, that his course in advertising his residence and the diseases he treated has not been in keeping with the spirit of the principles of ethics. As regards Dr. William H. T. Shackford,

Walkerton, the committee found that he had not been a member of the society since 1890, and they therefore had no jurisdiction. The charges of contract practice against Dr. H. L. Tutwiler, Singerglen, were sustained, he acknowledged his error and promised not to offend again.

Election of Officers.

At the afternoon session the following officers were elected: President, Dr. Joseph A. Gale, Roanoke; vice-presidents, Drs. William E. Anderson, Farmville, S. T. Anderson Kent, Ingram, and Israel Brown, Norfolk; recording secretary, Dr. Landon B. Edwards, Richmond (re-elected); corresponding secretary, Dr. John F. Wynn, Richmond; treasurer, Dr. Robert M. Slaughter, Alexandria; orator, Dr. William S. Gordon, Richmond, and delegate to the American Medical Association, Dr. George Ben Johnston, Richmond. Richmond was selected as the next place of meeting.

Entertainment.

The social features offered by the Richmond physicians included trips to Bedford and the Palisades of the New River, and to Fries, a reception given by Mrs. T. E. Lewis to the wives and daughters of the members, and a trolley ride, and a reception at the Country Club, also for the ladies. The annual banquet was held at the Hotel Roanoke.

Presentation.

Dr. John N. Upshur presented an ivory and ebony gavel to the society and Senator Harvey was presented with the pen with which Governor Montague signed what is popularly known as "The Osteopath Bill."

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Chronic Purulent Otitis Media.

The following combination is recommended by *Bul. Med. de Nantes* as local treatment for chronic otorrhea:

℞. Resorcin .....gr. xx 1 | 20
Tinct. opii .....gtt. xv 1 |
Aq. destil. .....ʒii 8 |

M. Sig.: A few drops to be introduced into the ear.

The ear should be thoroughly irrigated with a warm boric acid solution and dried with absorbent cotton. A few drops of the foregoing solution is then dropped into the ear and allowed to remain a few minutes.

According to Dench, in his treatise on "Diseases of the Ear," there are two objects aimed at in the treatment of chronic purulent otitis media:

1. To stop the discharge.

2. To relieve the subjective symptoms and to improve the hearing.

In order to accomplish these results the ear must be kept clean by irrigation. In irrigating the ear the patient must be carefully instructed as to the method of syringing or all the pus will not be removed. The ear should be drawn upward and backward, thus straightening the auditory meatus. The syringe should have a blunt nozzle, rendering it impossible to be carried into the ear far enough to do injury to the membrana tympani. The syringe should be directed downward and forward toward the tip of the nose. The fluid should be injected with moderate force and the temperature of the solution should be carefully observed, for if it is either too hot or too cold pain will be produced; so the patient should be the guide in choosing the proper temperature. Not less than one pint should be used at each irrigation. The author advises a 1-5,000 bichlorid solution, a saturated solution of boric acid or a 2 per cent. solution of carbolic acid. The patient should be instructed to wipe out the ear with small pledgets of cotton twisted about a small toothpick or metallic holder. He condemns the use of powders, as crusts may be formed and act as barriers to the outflow of pus. In the hands of experienced physicians, he states, astringent or stimulating powders are of value, especially after the discharge has greatly reduced and only a small amount of moisture remains. In such cases the insufflation of boric acid, zinc oxid, iodoform, or a mixture consisting of equal parts of alum and boric acid is of great service in entirely checking the secretion. Only a minute quantity must be used. If pain should again arise, the patient must be instructed to again syringe the ear and to follow out the same procedure if the discharge should set up again. If granulations form they may be touched up with chromic acid or silver nitrate fused on a metal probe. The use of chromic acid for this purpose is preferred.

In using the bichlorid solution some authors prefer the following combination in the treatment of otorrhea:

℞. Hydrarg. bichloridi .....gr. ss | 03
Acidi tartarici .....gr. xx 1 | 30
Aquæ .....ʒiv 120 |

M. Sig.: To be used as a wash for the ear.

The powerful toxic character of the bichlorid should be remembered and care exercised in its use, no matter what strength solution is used.

In cases of moist eczema of the external auditory passages the following is recommended:

℞. Alumenis (burnt)
Amyli, āā .....ʒii 8 |
Zinci oxidi .....ʒss 2 |

M. Ft. pulvis. Sig.: To be used locally on the affected parts.

The following combination containing carbolic acid is recommended in the treatment of otorrhea:

℞. Acidi carbol.
Plumbi acetatis, āā .....gr. x | 65
Tinct. opii .....ʒii 8 |
Aquæ .....ʒviii 240 |

M. Sig.: Warm the mixture and irrigate the ear twice daily; or:

℞. Acidi carbol.
Zinci sulph.
Plumbi acetatis, āā .....gr. x | 65
Aq. destil. .....ʒviii 240 |

M. Sig.: Inject into the ear night and morning.

Facial Acne.

In the treatment of acne of the face, according to *Médicine Moderna*, hot water should be applied locally, after which the following applications should be employed:

℞. Hydrarg. bichloridi .....gr. viiss-xv | 50-1.00
Eau de cologne .....ʒviii 240 |

M. Ft. lotio. Sig.: Apply locally .

And as an ointment or cream the following is recommended:

℞. Aq. rosæ .....ʒss 2 |
Lanolini (anhydrous) .....ʒiss 6 |
Aquæ .....ʒiiss 10 |

M. Sig.: Apply locally.

Laxative Combinations.

The *Presse Médicale* recommends the following combinations as serviceable remedies in correcting constipation in adults:

℞. Extracti frangulæ flu.
Extracti cascaræ flu. āā.....ʒvi 24 |
Glycerini .....ʒiii 12 |

M. Sig.: One or two teaspoonfuls at bedtime; or:

℞. Ext. cascaræ .....gr. 3/4 | 05
Podophyllin .....gr. 1/7 | 009
Ext. hyoscyami .....gr. 1/7 | 009
Euonymin .....gr. 3/7 | 025
Pulv. saponis q. s. |

M. Ft. pil. No. i. Sig.: One or two such pills at bedtime; or; =

℞. Euonymin
Podophyllin, āā.....gr. 3/10 | 02
Ext. hydrastis Canaden.
Pulv. saponis, āā .....gr. ss | 03

M. Ft. pil. No. i. Sig.: One such pill at bedtime.

Chorea.

The following combinations are of value in the treatment of chorea, according to Yeo in his *Clin. Ther.:*

℞ Asafetidæ .....gr. xx | 1|30
Ext. valerianæ .....gr. xx | 1|30
Zinci oxidi .....gr. x | 65
Ext. belladonnæ .....gr. ii | 12

M. Ft. pil. No. xx. Sig.: One or two, night and morning; or:

℞ Ferri reducti .....gr. i-iii | 06-.20
Quininæ sulph. .....gr. ii-v | 12-.30
Acidi arsenosi .....gr. 1/50 to 1/30 | 0012-.0020

M. Ft. cap. No. i. Sig.: One such capsule after meals three times a day.

As a hypodermic injection the following combination is recommended:

℞ Sodii arsenatis.....gr. iss | 09
Acidi carbol. .....m. iii | 20
Aquæ destil. .....3iiss | 10

M. Sig.: Five minims to be injected daily.

Cerebral Arteriosclerosis.

The following outline of treatment is recommended by an abstract in the *N. Y. and Phila. Med. Jour.* in the treatment of cerebral arteriosclerosis:

℞ Pulv. scammonii .....gr. vi | 40
Pulv. jalapæ
Pulv. gutta perchæ; āā.....gr. iiss | 15

M. Ft. chart. No. ii. Sig.: One powder at bedtime; the second to be taken in twenty minutes.

These powders should be taken every ten or fifteen days. In the meantime the following is advised:

℞ Pulv. aloes
Euonymin, āā .....gr. 3/4 | 045
Podophyllin .....gr. 3/20 | 01
Ext. hyoscyami
Ext. belladonnæ, āā.....gr. 3/40 | 005
Saponis q. s.

M. Ft. pil. No. i. Sig.: One such pill at bedtime.

During three weeks of the month the following should be prescribed:

℞ Pot. iodidi .....gr. xlv | 3
Aq. destil. .....℥x | 300

M. Sig.: One tablespoonful twice daily after meals.

And during the remaining ten days the following should be substituted:

℞ Theobromin. .....gr. viiss | 50
Sodii benzoatis .....gr. iv | 25
Lithii carb. .....gr. iiss | 15

M. Ft. cap. No. ii. Sig.: Two such capsules night and morning.

Drug Eruptions.

The following division of drug eruptions is made by Pernet, according to an abstract in *Amer. Med.:*

1. Erythematous, papular and urticarial eruptions. They may be caused by atropin, arsenic, quinin, copaiba, antipyrin, chrysarobin or mercury and iodoform locally. The diagnosis, according to the author, is not easy. From scarlet fever the differentiation is made chiefly by the mode of onset, the examination of the urine and the absence of corroborative symptoms. Multiformity of lesions is rather in favor of drug origin. The existence of a disease likely to be treated by one of the foregoing drugs, as gonorrhea (copaiba), headache (antipyrin), should be inquired into.

2. *Vesicular* and *bullous* lesions may be caused by antipyrin, quinin, arsenic, salipyrin, or the salicylates and less often by morphin, chloral or mercury. Iodids rarely cause bullæ unmixed with pustules.

3. Pustular eruptions are most commonly due to bromids or iodids. The bromid rash has frequently been mistaken for syphilis. It must be remembered that bromids are found in many of the proprietary remedies,

4. Purpuric rashes may be caused by those drugs mentioned in the first paragraph.

5. Pigmentation is caused by arsenic, especially on those parts of the body not exposed to the air. [It is occasionally observed in cases of chorea treated by arsenic.]

The coal tar preparations have also been known to produce a permanent pigmentation of the skin. The silver salts may produce a blue discoloration.

Medicolegal.

Ten Thousand Dollars for Loss of Left Hand.—The Court of Civil Appeals of Texas says, in Texas & Ft. Smith Railway Company vs. Hartnett, that it has not been able to find a single case where damages have been adjudged any one in the amount assessed by the jury in this case, namely $15,000, for the loss of the left hand, and it holds $10,000 to be full compensation to a locomotive engineer for such loss and the physical and mental suffering incident thereto.

Answers of Applicant for Insurance as to "Serious" Illness.—The Court of Civil Appeals of Texas says, in Supreme Ruling of the Fraternal Mystic Circle vs. Crawford, that it seems to it that the answer of an applicant for life insurance on his own life that he has never had any serious illness should be considered as a mere expression of opinion as to the character of the sickness, and should not avoid the policy, even though such answer was untrue, provided, of course, the applicant did not know of its falsity. The form of the question necessarily calls for an opinion, and an agreement to warrant the truthfulness of the answer is no more than to warrant that the applicant will make a bona fide answer as to his opinion of the character of his ailment.

Indictable Conspiracy to Get Examination Questions.—In the case of the State of Washington vs. James G. Stewart and O. V. Lawson, the Supreme Court of Washington holds that a cause of action was stated by an information which alleged that these parties conspired to obtain from a member of the State Medical Examining Board a set of questions to be propounded at the ensuing examination for a consideration in money ($600); Stewart, it was agreed, was to prepare the answers and to deliver the questions and answers to Lawson, and it was understood that Lawson would thereby be enabled to fraudulently pass the examination, and would obtain from the board a license entitling him to practice medicine and surgery under the laws of the state. There was the intent then and there, on the part of each of the accused, to defraud and injure the people of the state, etc. It was stipulated in the case to be conceded that no person charged in or connected with the conspiracy charged in the information applied to or obtained from any member of the board a set of questions agreed on by the board to be propounded at the next ensuing examination; that no such application was made by any such person for a consideration of money or otherwise; that no member of the board was approached on the subject by any such person. The proof showed that Lawson and Stewart dealt with each other through an intermediary, one Braid. Stewart represented to Braid that he would obtain these questions and answers from one Dr. Wilson, whom he represented to be a member of the board. It developed during the trial that in all probability Wilson was a fictitious character. The Supreme Court holds that, so far as the stipulation was concerned, it could make no material difference whether the questions were obtained from the board or not, or whether they were obtained at all or not, as the offense charged was the unlawful agreement to so obtain them. It says that it appeared plainly from the testimony that the intent of the accused was to unlawfully obtain for Lawson the certificate or license desired. The crime was completed when they entered into the agreement to defraud the state medical board in the manner proposed. Neither the character nor the proper definition of a crime is dependent on the success or failure of the enterprise. Nor did it make any difference that Lawson thought that the medium through whom the questions and answers were to be obtained was Wilson instead of Stewart, or even that he thought that the name of the man with whom he was conspiring was Wilson in-

stead of Stewart. The two men actually arranged the terms and conditions of the unlawful combination through the aid of the go-between, and they were as responsible as though they had dealt with each other in person. Accepting the definition of the accused, that to constitute an indictable conspiracy there must be a combination or agreement of two or more persons to commit some act known or recognized as an offense punishable as a crime or prohibited under penalties of statute, or there must be a combination and agreement between two or more persons to accomplish a lawful purpose by unlawful means, the court thinks the information and proof were sufficient. For, it says, while it was not unlawful to pass the medical examination or to attempt to pass it, the information alleged, and the proof showed, that the accused conspired together for the purpose of assisting Lawson to do a lawful thing in an unlawful manner. While not unlawful in its nature, it was unlawful in respect to the means to be used in accomplishing it.

Evidence of Inability to Bear Children Inadmissible.—In the case of Ricards vs. the Safe Deposit & Trust Company of Baltimore, where a childless couple, the wife aged 53 years and the husband several years younger, sought to have a property trust terminated in which any child born to them would have an interest, the Court of Appeals of Maryland was confronted with what it characterizes as the serious and delicate question of whether it was competent for the parties to prove by medical testimony that the wife was incapable of bearing children. The court says that there are some early English cases which upheld or sanctioned a presumption that a woman of this one's age was incapable of bearing children. The more modern English cases have not adopted or relied on this presumption. In Lawson on Presumptive Evidence, p. 302, it is said: "In a number of cases the English courts have acted on the presumption that a woman beyond a certain age is incapable of child-bearing. No case can be found in the American courts in which such a presumption has been given effect to." At best, such a presumption is speculative. It is, as the very term "presumption" implies, a mere inference and not a certainty; and it would be exceedingly unsafe to permit property rights to depend on so precarious a basis. But the proposition here went further. It did not contemplate reliance on a simple presumption. Physical conditions had been testified to by medical witnesses who had expressed the opinion that there was no possibility of the life tenant being the mother of children. Can such evidence be received in a court of justice to affect the devolution of property, or to divert the course marked out for it to follow? The admission of such evidence in a case like this, where the avowed purpose of the proceeding is to cut out or strike down an estate in remainder, would or might be productive of most disastrous results. If, because of physical degeneracy, atrophy or decay, a medical man may, in a controversy involving title to an estate, testify that a woman is incapable of bearing children so that a trust deliberately created for her benefit during her life only may be brought to an end, with a view of vesting an absolute interest in her, or so that the vesting of a remainder may be accelerated, no one can foretell to what lengths such a precedent would lead. A surgical operation extirpating the uterus, for instance, would make it absolutely certain that no issue could be borne. If proof like that here under consideration were admitted, on what principle could evidence showing that an operation of the kind indicated had been performed be excluded? And, if not excluded, what would prevent interested parties from resorting to such or similar operations, if by a resort to them a mere equitable life estate could be converted into an absolute interest? It is wholly immaterial whether the inability to bear children arises from natural or artificial causes. It is not the cause, but the fact, that alone controls the question, and the single fact to which the law looks is death. On a case of first impressions, as this case is, the court goes on to say that it is bound to examine and weigh the results that may lie beyond the narrow horizon of an isolated controversy, and to consider the moral aspects of the situation, in reaching a conclusion which, when reached, may be fraught with such dangerous and demoralizing consequences. It is obviously not the province of courts of justice, and especially courts of equity, to encourage in any way a resort to a method like this for defeating a settlement or terminating a trust. If the evidence set out in the record should be received, no line could be drawn restricting or marking its limits, and no satisfactory reason could be given for the exclusion of the other species to which allusion has been made; and, if the latter sort of evidence be admitted, a court of conscience would be made the instrument for the promotion or encouragement of acts most manifestly subversive of good morals. And the court says that even had the question as to the admissibility of this kind of testimony been decided in other jurisdictions adversely to the view it takes, it should feel constrained, on grounds of a sound public policy, to exclude the testimony in a contention like this.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

September 19.

1 *The Pathology and Treatment of Rheumatoid Arthritis. Edward M. Merrins.
2 *Birth Palsies. M. H. Bochroch.
3 The Results of Brain Surgery in Epilepsy and Congenital Mental Defect. (To be concluded.) William P. Spratling.
4 *Some Anatomical Varieties of Inguinal Hernia. George R. White.
5 The Etiology and Treatment of Subacute and Chronic Catarrhal Affections of the Upper Air Passages in Children. James A. Patterson.
6 *Observations on 100 Cases of Gastrointestinal Diseases Treated at the French Lick Springs. George D. Kahlo.

1. **Rheumatoid Arthritis.**—Under this head Merrins understands a constitutional polyarthritic disease, most frequent in women, commencing at the periphery and advancing symmetrically towards the trunks, accompanied with irregular fever, pain, anemia, vasomotor disturbances, deranged reflexes, muscular atrophy, tremor and cramps, and in children with splenic and lymphatic enlargement. Recent investigations indicate that the trouble is first in the synovial membrane, accompanied with effusion, then involving the capsule of the joint with erosion of the bone, contraction of fibrous tissue and rarefying osteitis. Ankylosis is usually fibrous, but may be bony. The etiology seems sometimes to have been a rheumatic attack, but more often follows some acute infectious disease, menstrual disturbances, absorption of toxins, cystitis and especially nervous depression. He thinks it is a condition due to toxins liberated in the system, not from a single germ, but from many infections, with impaired nervous vitality as a dominating predisposition. The germs and toxins which produce the arthritis exert at the same time a selective poisonous action on the nervous system. It occurs more frequently in persons with the rheumatic diathesis or with nervous systems that have been impaired by physical injury, shock, worry or anxiety. The history and general clinical aspect point to chronic poisoning rather than to the direct action of a specific germ. There are a few cases closely resembling rheumatoid disease which seem to depend wholly and directly on some functional or organic disorder of the nervous system, since they can not be traced to any source of infection. The treatment consists in removal of all sources of toxic absorption and the elimination of poisons from the system by baths, etc., the administration of medicines which check intestinal fermentation and the repair of the ravages of the disease by a liberal diet and restorative and tonic medicines. In extreme cases surgery is advised to obtain movement in the ankylosed limb. For the relief of pain he suggests the use of heat by salt or sand bags, the use of liniments, blisters to the spine or cold applications and, as a last resort, drugs. In the early stages much can be done to arrest the disease and bring about recovery. Later it is very intractable, but much can still be done to relieve the patient.

2. **Birth Palsies.**—Bochrock remarks that in spontaneous labor we should not be in too great haste to deliver the trunk, and traction on the head should not be made except in case of

necessity. If the axilla is hooked traction should be mild. In forceps extraction, expression should be used and one should remember the Walcher position and bring the forceps not far outside the direction of the axis of the body. Slight pendulum movements may be used, but extreme ones avoided. During extraction by means of the feet, the arms should be quickly attended to, in case they are interfering, by the Mauriceau procedure; resorting in grave cases to expression, and, if necessary, to Walcher's position. If the extraction of the head offers considerable difficulties, it is an indication for the application of forceps to the aftercoming head to avoid stretching of the axillary nerves. The treatment of brachial palsies may be both surgical and medical. In some cases where the nerves are torn, suturing should be indicated, though whether it can be carried out is a question. Treatment of brachial palsy once established resolves itself into the use of massage and electricity. In some cases the paralysis disappears, but this is not the rule when the condition is marked. The arm should not be allowed to hang helpless at the side, but should be supported in a sling or a Velpeau bandage.

4. **Hernia.**—White describes the different forms of inguinal hernia depending on the condition of the peritoneal diverticulum, whether closed or not, such as congenital hernia when the tunica vaginalis remains patent; congenital funicular hernia when the middle of the canal is closed but not obliterated; infantile or encysted hernia when a pouch of the peritoneum from the abdominal cavity is pushed down into an abnormally large cavity of the tunica vaginalis, and the ordinary acquired hernia.

6. **Gastrointestinal Diseases.**—Kahlo describes the effects of the waters of the French Lick springs at West Baden on gastrointestinal diseases. He finds the best results in chronic gastritis with deficient secretion and excessive mucus, also in cases complicating hepatic cirrhosis and nephritis, except in one case where there was evidence of marked renal degeneration. Myasthenia and hypersthenic gastritis are not so well affected, but are not contraindications. The majority of purely nervous myasthenics were benefited, probably due as much to the environmental and hygienic influences as to the water. Colitis of the mild type with constipation showed considerable improvement. Constipation due to atony was markedly improved. In enteritis of the severe type he does not think the waters indicated. He has seen albuminuria and glycosuria disappear in some cases, but he can not say as to the duration of the cure. Persons should exercise freely while drinking the water. It should be taken not less than one hour before or two hours after meals. It is also important to obtain a complete evacuation of the bowels early in the treatment. He gives analyses of the different springs and a description of the accommodations. The diet should be regulated. Alcohol is naturally contraindicated and he warns against the overuse of the waters.

Medical Record, New York.

September 19.

7 *Differential Leucocyte Count in the Early Days of Typhoid Fever. Henry A. Higley.
8 A Case of Leucosarcoma of the Choroid. Thomas R. Pooley.
9 The Range of Osteoplasty as an Aid in the Conservative Surgery of Bone Traumatism. Thomas H. Manley.
10 *Some of the Mistakes We Have Inherited. Mark I. Knapp.
11 Early Symptoms of Dementia Precox. A. R. Diefendorf.

7. **Typhoid Fever.**—Higley finds that many cases of typhoid fever, contrary to the common notion, showed a characteristic differential leucocyte count within the first week of the disease. The value of the differential leucocyte count in the early diagnosis of typhoid is as yet a question, but it seems certain that when used in addition to the total leucocyte count more information may be obtained than by employing the total count alone. He gives blood counts of a number of cases of malarial fever and reports in some detail the counts and reactions in several cases of typhoid.

10. **Mistakes We Have Inherited.**—Knapp questions whether vomiting is ever a reflex phenomenon, and considers it always due to gastric irritation, the direct cause always lying within the lumen of the alimentary canal, no matter what outside cause there may be. Green vomit in the majority of cases does not mean bile but the growth of green mold, and chocolate-colored vomit need not necessarily mean blood, but may mean red mold. Of course, either of these may coexist with bile or blood. Another mistake he calls attention to is trusting too much to the appetite as a sign of healthy gastric conditions, and still another is the dietetic value of stale bread. It is not the freshness of the bread that harms, but the quantity. Too much is taken. Constipation from dietetic causes is noted as a condition in regard to which we have erroneous views. We are inclined to prescribe too much fruit, whole-wheat flour, sweets, etc., in these cases. They are liable to produce gaseous fermentation and irritation and may be decidedly injurious and help to produce organacidia gastrica or organacidia enterica, which he proposes later to describe. What may be beneficial in small quantities becomes absolutely dangerous when taken in large amounts, and once recommended they are liable to be taken in excess.

Medical News, New York.

September 19.

12 *The Etiology and Chemical Pathology of Gallstones. C. A. Herter.
13 *The Modern Treatment of the Acute Suppurations of the Knee Joint. Arpad G. Gerster.
14 *What Ought We to Expect from Cardiac Drugs in Heart Weakness. O. T. Osborne.
15 *A Study of Good Results in Hip Disease. V. P. Gibney.
16 *Chronic Nephritis without Albuminuria. Arthur R. Elliott.

12.—See abstract in THE JOURNAL, xl, p. 1598.

13. **Suppuration in the Knee Joint.**—Gerster describes the different forms of gastric suppuration, metastatic or pyemic, that due to osteomyelitis and traumatic suppuration. He speaks very highly of the Mayo incision as the best method for reaching and draining the parts, especially in osteomyelitic cases.

14. **Cardiac Drugs.**—Osborne describes the various cardiac tonics, naturally putting digitalis in the first place. He thinks it is, as a rule, indicated in chronic cardiac weakness, except when due to myocarditis or fatty degeneration. In acute endocarditis complicating acute rheumatism it is hard to say whether it should or should not be used, but its slowing of the heart is likely to do good. In the feeble heart of myocarditis it is a question whether it is to be used. We should not deny the patient the possible benefit where it seems to be of value, though its action should be closely watched. It should not be used in endarteritis or atheroma, and ordinarily not in aneurism. It is often a good soporific in the insomnia of neurasthenia. No fixed rule can be given as to its use in renal inflammation. It is of benefit in the anemic edema of the lower extremities and effusion without kidney lesions, and in chronic liver disease it is always of benefit combined with other treatment. In uremic poisoning or low vasomotor tension with weak heart, digitalis should be cautiously tried. If it does not give good results in 36 to 48 hours it should be stopped. Its contraindications are high tension of the arteries, atheroma, weak cardiac muscle and ordinarily a serious kidney lesion. The best substitute for it is strophanthus, which can be used when a cardiac tonic is needed, and digitalis produces nausea and vomiting or the blood pressure is high, and when a rapidly acting tonic is desired, when there is more nervous irritability and heart weakening than actual muscular debility or incompetency, and in children who are very susceptible to digitalis. Spartein sulphate is a substitute for digitalis, which can be used in case of irregularity and nervous irritability of the heart with general nervousness. Muscle or fatty degeneration of the heart, low pulse tension and dilatation or cardiac weakness contraindicate it. Cactus does not increase the cardiac strength as does digitalis, but has no cumulative action and does not wear itself out. Convallaria and adonidine have been unsatisfactory in his experience. Suprarenal acts as a vasomotor and cardiac stimulant only when absorbed from the nose or mouth, not by the stomach. Strychnin Osborne considers overused at the present time, but he speaks highly of caffein, as a cardiac, cerebral and muscular stimulant and as a diuretic and an antidote in poisoning. Its contraindications are palpitation, irritable heart, high blood pressure, cerebral or spinal inflammations or irritations, in-

somnia, neurasthenia and acute genitourinary inflammations. As to alcohol, he thinks in small doses it may be of value in relieving the heart by its vasodilator action, though too large doses are contraindicated. It should be given concentrated. To combat continuous cardiac failure or depression, alcohol is the poorest stimulant we can use and exaggerates the depression. He has also obtained as good circulatory results in sthenic fever from small doses of nitroglycerin as he has from alcohol. The narcotic effect of the latter in certain serious feverish conditions may, however, be of advantage.

15. **Hip Disease.**—Gibney discusses what are and are not good results in these conditions, and thinks that we should seek for the best results, that is, as full a restoration of function as possible. Where the treatment has been too long delayed and the head and neck of the femur have suffered severely, fair results may be obtained by attention to details, though fine results are hardly to be expected. In the later stages we have to be content with correcting the deformity and eradicating necrotic areas and sinuses. Results that will satisfy can be obtained if we maintain the best position of the limb.

16. **Chronic Nephritis Without Albuminuria.**—Elliott reports cases and points out that chronic interstitial nephritis may have latency of symptoms through the entire course of the disease, though this is most likely in the early stages. It does not constitute a point of absolute distinction between the early and advanced stages or between the mild and severe forms. Albuminuria is very frequently absent during the early stages and may be up to the end or through the entire course of the disorder. It is a very unreliable diagnostic sign. More dependence can be placed on the diminution of urinary solids and especially on the presence of casts. Chronic interstitial nephritis never exists as a clinically recognizable condition without casts in the urine. The secondary circulatory changes following the disease are so characteristic as in most cases to furnish ground for its recognition before the urine is examined. The inconstancy of the urinary symptoms puts them much in the same diagnostic category as murmurs in valvular heart disease.

American Medicine, Philadelphia.

September 19.

17 *Labia Urethræ and Skene's Glands. (Concluded.) Howard A. Kelly.
18 *The Rational Treatment of Pulmonary Tuberculosis, with Report of Cases. F. M. Pottenger.
19 *The Treatment of Chronic Round Ulcer of the Stomach. Frank H. Murdoch.
20 The Bacillus of Syphilis. Justin DeLisle.
21 *Placenta Previa and Its Treatment, with Special Reference to Combined Version. Daniel Longaker.
22 A Contribution to the Prophylaxis of Venereal Diseases. G. Morgan Muren.
23 English Surgery as Practiced by Richard Wiseman, Sargeant Chirurgeon, in 1676. John D. Singley.

17. **Labia Urethrae and Skene's Glands.**—Kelly's article is finished in this issue. He thinks he has made clear the following points: 1. That one often finds definite labia overlapping the urethral orifice. 2. That their function is protective and in part sexual. 3. That attention must be more regularly directed to Skene's glands. 4. That these structures are veritable glands (Schüller). 5. That their function is to lubricate the labia urethræ and is also largely sexual. 6. He calls attention to the simple method of constructing a hairpin speculum to expose the orifices of these glands, and 7, presents a simple and safe method of injecting them, a decided improvement over the hypodermic syringe. 8. He also calls attention to 2 cases in which smegma bacilli in large numbers were lodged in the glands.

18. **Pulmonary Tuberculosis.**—Pottenger insists on the value of pure, moderately dry, aseptic air, a maximum of sunshine, freedom from storms, a dry porous soil, a liberal diet with a maximum of nourishment, and a minimum expenditure of digestive energy. The use of hydrotherapy, especially the cold morning rub, is also advised with regulated exercise and a general regulation of the habits of life. He thinks serum therapy in this disease is of decided value and increases the patient's chances of cure at least 20 per cent. Direct medication of the air passages, while it can not be considered curative, in many cases alleviates symptoms. He mentions intratracheal injections of menthol, olive oil, camphor and iodoform or izal from 1 to 10 per cent. in Price's redistilled glycerin. The pneumatic cabinet is also mentioned as a useful adjunct of treatment. Drugs are of secondary importance, but for the correction of symptoms cinnamic acid seems to him of some little benefit, though his experience is limited. Ichthyol apparently facilitates expectoration and aids digestion in some cases. Creosote and creosotal he only uses for intestinal putrefaction, and he also employs creosotal in pneumonia. Aside from this his drugs are mainly stomachics, intestinal antiseptics and general tonics where they are indicated. He gives his results in detail.

19. **Gastric Ulcer.**—Murdoch thinks that women suffering from gastric ulcer require absolute rest in bed, and if this is impossible they should dispense with corsets and tight waistbands and keep as quiet as possible. Men, on the other hand, with chronic gastric ulcer do not ordinarily require rest, and manual laborers even get along without quitting their work. Brain workers must be relieved of their mental work and worry, at least during the early months. The condition of the gastric secretion must be looked after unless there are other reasons than the ulcer for not passing the stomach tube. If free or normal hydrochloric acid is found milk must form the principal article of food and be given with other liquid foods. He speaks well of bismuth and silver nitrate in chronic gastric ulcer when there is hyperchlorhydria or achylia. This last probably acts by producing a thin film of coagulated albumin over the inflamed and sensitive mucous membrane around the sore. He does not believe in discontinuing the liquid diet until epigastric tenderness has disappeared, the time varying from four weeks to very much longer periods. The complications of hemorrhage and perforation are noted. In the former he advises absolute rest in bed, ice, either by the mouth or rectum, an ice bag applied to the epigastrium, and nourishment should be given by the bowel. In case these are insufficient, gelatin injections by the mouth and adrenalin are suggested. In persistent hematemesis Ewald's recommendation of washing out the stomach with ice water should be tried, but if all these fail, operation should be considered.

21. **Placenta Previa.**—Longaker reports 11 cases treated by the plan of combined version first introduced by B. Hicks with the result of 6 babies born alive. He thinks we do well in these cases not to hurry the birth after turning.

Boston Medical and Surgical Journal.

September 17.

24 The Ill Health of Francis Parkman. George M. Gould.
25 *Minor Surgery in Country Practice. Clifford S. Chapin.
26 *The Dietary Treatment of Constipation. Henry F. Hewes.
27 Hyperchlorhydria. Roscoe W. Swan.
28 A Mastoid and Auricle Retractor. Frederick L. Jack.

25. **Minor Surgery in Country Practice.**—Chapin suggests the importance of a thorough knowledge by the country practitioner of bandaging aseptically and antiseptically, and also the necessity of knowing how to do strapping and do it well. The advantages of understanding the technic of poultices and intravenous injection and infusion of saline solution are also mentioned. The necessity of the country doctor knowing something about the proper method of anesthetizing is important and he thinks is neglected. It is, moreover, essential for him to know how to meet hemorrhage and shock, and Chapin gives details. There are certain operations in which teaching has been deficient such as in the treatment of fractures. He insists also on a thorough knowledge of the management of strangulated hernia which is essential in emergencies.

26. **Constipation.**—The factors bearing most directly on the physiologic function of the intestines are enumerated by Hewes, such as the habit of a regular period of defecation, a proper amount of physical exercise and a proper diet. The physician must at the start advise as to these. The first two explain themselves. As regards the latter he points out the necessity of having a proper selection of foods containing sufficient unabsorbed residue, and gives a diet list for constipation. Fats may also be of use if taken in considerable quantity, and foods which contain or generate considerable quantities of organic acids which by their action on metabolism or the

nerve centers after absorption increase the intestinal activity, such as tamarinds, prunes, plums, etc., and certain vegetables. His patients were advised to give up drugs and are instructed as to exercise and the necessity of following a diet list made up according to the indications mentioned above, such as whole-wheat or rye bread, cabbage, beets, turnips or lettuce, and prunes or tamarinds for dessert. Enemata were used when necessary at the start. The diet was kept up from one to two weeks, and in some cases prunes stewed with senna were prescribed (1 ounce of senna leaves stewed with 3 or 4 dozen prunes). In some special cases a fat excess in the diet was prescribed. He says in the very large majority of cases of constipation the chief and possibly the only cause is failure to follow a normal physiologic manner of life. In such, a complete cure can be obtained by a proper direction of general régime and diet.

Cincinnati Lancet-Clinic.

September 19.

29 *A Case of Basicranial Fracture Followed by Status Epilepticus and Death. H. S. Allen.
30 Charlatanism. George J. Monroe.
31 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

29. **Status Epilepticus.**—Allen reports a case of an epileptic patient who suffered from a fracture of the base of the skull during a fall in a fit, and which was followed by fatal status epilepticus. He discusses the latter condition and its mortality, which is very high.

St. Louis Medical Review.

September 19.

32 Report of Tetanus Cases. William S. Deutsch.

Bulletin of the Johns Hopkins Hospital, Baltimore.

August.

33 Elchat. William S. Thayer.
34 Some Early Autopsies in the United States. Walter R. Steiner.
35 A Case of Neuro-fibromatosis (von Recklinghausen's Disease) with Paralysis and Muscular Atrophy of Arms and Legs. H. M. Thomas.
36 *The Cure of the More Difficult, as Well as the Simpler Inguinal Ruptures. W. S. Halsted.
37 *The Pathology of Smallpox. William Royal Stokes.

September.

38 The Quality of Thoroughness in Nurses' Work. Isabel Hampton.
39 *The Anatomy of the Pancreas. Eugene L. Opie.
40 Uncinariasis; Report of a Case of Infection with the American Species. Thomas R. Boggs.
41 Solitary Tubercle of the Stomach. Roy McL. Van Wart.
42 The Control of Hemorrhage Following Pelvic Operations by Packing the Pelvis with Gauze Through a Proctoscope and Maintaining Counter Pressure by Packing the Vagina. John A. Sampson.
43 *Note on the Discovery and First Use of the Stomach Tube by an American Physician. Julius Friedenwald.
44 *On a Rapid Method of Staining Neuroglia. Roy McL. Van Wart.

36. **Hernia.**—In this paper Halsted calls attention to certain special points, such as excision of the veins, utilization of the right rectus muscle to close the lower part of the right inguinal canal and utilization of part of the cremaster muscle, which was formerly cut away. The illustrations explain almost better than the text, but the steps of the operation are given as follows: 1. Division of the aponeurosis of the external oblique and reflection of the flaps. 2. Splitting of the cremaster muscle and fascia a little above the center of the cord. 3. Freeing the internal oblique muscle as much as possible. Here it may be advisable to make relaxation cuts in the anterior sheath of the rectus muscle under the aponeurosis of the external oblique, but doing this after sewing of the internal oblique to Poupart's ligament is begun when the tension can be better gauged. 4. When the veins are large, as is usual, they should be excised with very great care to avoid even the slightest extravasation of blood, avoiding any handling of the vas deferens if possible. 5. Ligation of the sac by transfixion or purse-string suture at the highest possible point. 6. Use of the lower flap of the cremaster muscle and its fascia by drawing it up under the mobilized internal oblique, holding it in position by fine silk stitches, which, having engaged firmly a few bundles of the cremaster, perforate the internal oblique, preferably where it becomes aponeurotic and are tied on the external surface of the latter. 7. Mobilization of the internal oblique, possibly further release by incising the anterior sheath of the rectus muscle. 8. Overlapping of the aponeurosis of the external oblique muscle by the so-called Andrew's method. 9. Closure of the skin with a buried continuous silver suture and covering of the incision with five or six layers of silver foil. It is unnecessary to dress or examine the wound closed in this manner for two weeks, when the wire may be withdrawn. The patients are kept in bed from 18 to 21 days. If during the dissection of the sac the cord is torn from its bed and subjected to traumatism and the testicle withdrawn from the scrotum, the veins should not be excised. In such cases Halsted would advise the transplantation of the vein alone. In children the veins should not be excised, as the probability of atrophy is greater than in adults.

37. **The Pathology of Smallpox.**—Stokes reports and illustrates the findings in smallpox, which he summarizes as follows:

Although we have only studied five cases of smallpox at autopsy, yet some conclusions can be drawn from the work. The early skin lesions indicate that the primary infection in smallpox takes place in the lungs, probably by inhalation. The poison, when it enters the circulation, shows a selective influence on the epithelium of the skin and respiratory tract, and many cases are probably not further affected. The serious and fatal lesions of smallpox are caused by the secondary infection from the skin and respiratory tract, and the infectious agent is usually the streptococcus pyogenes. This organism is so distributed throughout the lesions as to explain most of the visceral changes, such as thrombosis, local necrosis and the various pulmonary changes. This streptococcic septicemia is the most striking feature of fatal smallpox, and if it were possible to overcome this condition by a special serum, the mortality from the disease would be greatly reduced.

39. **The Pancreas.**—Opie describes the anatomy and histology of the pancreas and calls attention in conclusion to the fact that the organ consists of two functionally diverse elements—on the one hand, cells which supply to the intestine important digestive ferments, and on the other hand, cells having no communication with the ducts of the gland, but an intimate relation to the blood vessels. In the second place, he also calls attention to the fact that the close anatomic relation of the pancreatic duct to the common bile duct favors transmission of the morbid processes from the liver to the bile passages and the pancreas.

43. **The Stomach Tube.**—Friedenwald points out that the invention of the stomach tube is to be credited to Dr. Philip S. Physick of Philadelphia, rather than to Jukes and Bush, who have been considered its inventors. He brings forward evidence and seems to make the case clear that Physick used the tube as early as 1800, and published the report of successful results with it in 1812, while the work of the English inventors first appeared in 1823.

44. **New Neuroglia Stain.**—Van Wart recommends the following process as a rapid method, possessing the advantages over the Mallory technic that it can be applied to any formalin-fixed tissue without prolonged special preparation and only requires a few minutes:

1. Fix in 10 per cent. formalin (4 per cent. formaldehyd). The tissue should be obtained within ten hours of death and fixed, preferably in small pieces. 2. Embed in paraffin (preferably the anilin oil method). 3. Cut 5/15 micra sections and mount on slides in the usual way. 4. Remove the paraffin by means of xylol, absolute alcohol and 95 per cent. alcohol. 5. Cover the section with a saturated aqueous solution of picric acid for two minutes. The section should be of a deep yellow color. 6. Wash in water. 7. Cover the section with a 10 per cent. aqueous solution of ammonium bichromate for two minutes. The yellow color should be completely removed. If not, repeat. 8. Wash in water. 9. Stain five minutes in a mixture of 8 c.c. of crystal violet saturated solution in alcohol (95 per cent.) and 42 c.c. of anilin oil water, made by shaking 5 c.c. of anilin oil with 95 c.c. of distilled water and filtering. This solution should be freshly prepared. A similar solution of gentian violet or methyl violet may be used, but the stain is not so intense. 10. Wash in water and blot. 11. Cover a 5 per cent. solution of potassium iodid, which has been saturated with iodin, one minute. 12. Wash with water and blot until the section is dry. If all the water is not removed the differentiation will be imperfect in the portions containing water. 13. Differentiate in anilin oil and xylol, equal parts. 14. Wash thoroughly in xylol. 15. Mount in balsam. The sections if not exposed to light will keep well. The portions of the section where the neuroglia is abundant are of a deep violet color. The rest of the section is nearly colorless. The method is based on that of Mallory.

Transactions of the Chicago Pathological Society.

May 11 and June 8.

45 *Blood Cultures in Lobar Pneumonia and Agglutination of the Pneumococcus. Edward C. Rosenow.
46 *A Statistical Study of the Postmortem Findings in 171 Cases of Lobar Pneumonia. Ellis Kirk Kerr.

*47 Demonstration of a Dissecting Aneurism of the Root of the Aorta Involving the Walls of the Heart. Frederick Tice.
48 The Effects on Streptococci of Blood Serum from Cases of Scarlatina. George H. Weaver and G. F. Ruediger.
49 A Study of the Hemolysis of Rabbit's Blood Corpuscles by Human Serum in Various Diseases, Especially Erysipelas. D. E. W. Wenstrand.
50 *A Fever Following Rat Bite. W. A. Evans.
51 The Action of Certain Ions on the Lysins in Human Serum. Ludvig Hektoen.
52 Network Formations in the Right Auricle, with Demonstration of a Specimen. E. R. LeCount.

45. **Blood Cultures in Pneumonia.**—Rosenow finds that with improved technic and the using of large quantities of blood for inoculation the pneumococcus can be recovered in all cases of pneumonia, and in obscure cases the blood culture may be a valuable diagnostic aid. The pneumococcemia in pneumonia does not mean a specially unfavorable prognosis. On account of the difficulties involved agglutination of the pneumococcus is at present of scientific, rather than of practical, value. Normal and pneumonic blood serum appear to have no bactericidal influence on the pneumococcus. His studies do not settle the question whether lobar pneumonia is the primary result of direct local infection or secondary localization in the lung.

46. **Pneumonia.**—From a study of 171 cases Kerr finds that the age of maximum frequency of deaths from pneumonia is from 35 to 40 years, while that of the greatest number from all causes is between 40 and 50. Fatal cases are somewhat more frequent in males. Unilateral cases predominate, the right side over the left and the lower over the upper lobe. Crossed pneumonia is rare. The majority of cases reach the stage of gray hepatization, and while abscess and gangrene are uncommon, pulmonary edema and bronchitis are frequent. Acute parenchymatous changes occur in the parenchymatous organs with marked frequency. The serous membranes are involved in the following proportion: pleuritis, 70 per cent.; pericarditis, 12 per cent.; endocarditis, 8 per cent.; meningitis, 6 per cent.; peritonitis, 5 per cent.; and arthritis, very rarely. Pericarditis occurred with pneumonia of the lower lobes in all but two cases, and of the right middle lobe in these two. The preponderance of vegetative endocarditis and the preference for the mitral valves in this series differs from the usual experience; the frequency of meningitis associated with endocarditis is also noteworthy. Jaundice in pneumonia does not seem to be accompanied by any uniform change in the liver. Kerr notes the importance of pneumonia as a terminal infection. The presence of chronic pathologic lesions in a large number of cases is remarkable. These are mostly of importance from a prognostic point of view.

50. **Fever Following Rat Bite.**—Evans has seen 3 cases of this fever, and has looked up the literature, finding 2 cases reported in European circles, while 15 appeared in American and 38 in Japanese journals. There are also slight references to others. He reviews the literature and analyzes the symptoms as they appear. The disease seems to come on late, in a large proportion of cases after a number of days, though the incubation period varies, and the duration of the fever may be weeks and months. The wound usually heals promptly. In general, after an interval of 10 to 21 days the fever appears, with pain, swelling and some discoloration at the point of bite. There is some chilliness and a general neuralgia and rather noticeable sweating. The peculiarity of the fever is its tendency to intermissions, which may last for days and weeks, and the patient feel well in the interval. Local glandular enlargement is marked; there may be a general adenopathy. Three deaths probably from this cause are recorded. The pathology, so far as known, is rather negative, except hyperemia of the cord and the increased cerebrospinal fluid in Miura's case. Suppuration either in the wound or glands has not been noticed of recent years under modern treatment.

Archives of Ophthalmology, New York.
September.

53 Clinical Contributions to the Knowledge of Rare Affections of the Conjunctiva and Skin of the Lids. J. v. Michel.
54 *Epiphora as an Initial Symptom of Basedow's Disease. E. Berger.
55 *Experiments on Endogenous Infection of the Eye. J. Zelenkovsky and M. Woizechowsky.
56 *The Value of Ophthalmic Examinations in the Differential Diagnosis Between Typhoid Fever and Acute Miliary Tuberculosis. Clarence Loeb.
57 Buphthalmos in a Subject of Congenital Dislocation of the Crystalline Lens. F. W. Marlow.

54. **Epiphora in Basedow's Disease.**—This symptom is considered by Berger in the case he reports as a secretory neurosis of the lachrymal glands similar to the other secretory neuroses of Basedow's disease. He rejects the mechanical explanations that have been offered. If this theory is correct, of course sounds and astringent injections are useless. The best treatment is that which relieves the general symptoms as well as the epiphora, though in obstinate cases perhaps the internal use of atropin or local instillations of cocain might be tried. For annoying dryness of the ball he has suggested the instillation of sterile salt solution, which has been employed with good results.

55. **Endogenous Infection of the Eye.**—The important facts deduced from the investigations of Zalenkovsky and Woizechowsky, as mentioned on page 819, are that in experimental endogenous infection of the eye the vitreous is a more favorable soil for the propagation of bacteria that have gained entrance than the aqueous, but that the entrance of bacteria is effected with more difficulty. The bacteria circulating in the blood can enter the aqueous and the vitreous in the absence of all inflammatory, embolic, or thrombotic processes in the vessels of the eye; their trophic action on the vessel walls is sufficient to permit their passage, but these conditions favor it.

56. **Typhoid Fever and Miliary Tuberculosis Differentiated.**—Loeb reports a case of general miliary tuberculosis, and to some extent discusses the literature. He finds that tubercles occur on the choroid probably in at least 50 per cent. of the cases of general miliary tuberculosis, though their absence does not disprove the presence of the general process. When present, especially when the development can be followed with other characteristic symptoms, they are pathognomonic of general miliary tuberculosis, and in cases of supposed typhoid fever running an atypical course, especially when the Widal reaction is negative, the eye should be examined. The presence of tubercles may not affect the therapeusis, but there are cases where a correct diagnosis is important from the forensic standpoint as well as being otherwise satisfactory.

American Journal of Obstetrics, New York.
September.

58 A Case of Pregnancy in a Dwarf Weighing 39 Pounds: Abdominal Hysterectomy. W. G. Willard.
59 *The Surgical Treatment of Puerperal Infection; a Part of the Symposium on Puerperal Infection. H. J. Boldt.
60 *The Bacteriology of the Puerperal Uterus; Its Relation to the Treatment of the Parturient State. S. Marx.
61 *The Treatment of Puerperal Sepsis. Hiram N. Vineberg.
61½ Uterine Myomas. William H. Baker and W. P. Graves.
62 *Postoperative Cystitis in Women. G. Kolischer.

59. **Puerperal Infection.**—The conclusions of Boldt's article are given as follows:

> In the acute form of puerperal septicemia and pyemia in which it is probable that the general circulation has been invaded by micro-organisms, whether a bacteriologic examination of the blood at the time of making the examination proves this or not, no method of surgical intervention is of benefit; on the contrary, it is likely to shorten life. In all puerperal infections the form of surgical intervention, if one be indicated, must be left to the judgment and conscientiousness of the physician, and the prognosis will vary according to the condition to be combated. With our present knowledge no strict rule by which one should be governed can be laid down.

60. **The Bacteriology of the Puerperal Uterus.**—Marx concludes that the normal puerperal uterus is a sterile organ. The presence of bacteria in the absence of general evidence of constitutional disturbance, means the introduction of such bacteria by accidental contamination. Their presence in the uterus accompanied by fever means in all probability sepsis arising from the uterus. Their absence in the presence of general symptoms means that we should look to other organs for the source, such as the vagina or vulva or some general disturbance accompanying the puerperal condition. He holds that the genitourinary tract is at all times well protected in ordinary cases in healthy women and only the operator's hands

can be a source of infection. Intrauterine douches can not clear the uterus from infecting germs. The only way to do this is to cause firm contraction of the uterus and limit infection, together with the use of a remedy to aid rapid absorption, and which, by its antiseptic properties, will destroy the germs. For this purpose he finds firm packing with reliable iodoform gauze the best method.

61.—See abstract in THE JOURNAL, xl, p. 1530.

62. Post-Operative Cystitis.—This condition, especially when occurring after ureteral denudation, Kolischer thinks is probably due to nutritive changes causing a point of less resistance for the immigration of micro-organisms which probably come from the intestine. Trophoneurotic changes also appear probable at the end of a denuded ureter. It is important always to make sure of the condition of the bladder before operation, and to consider also the possibility of cystitis occurring some time after operation as not having anything to do with the latter but being due to other causes.

Clinical Review, Chicago.

September.

63 Report of Two Cases of Labor in Deformed Pelves. Joseph B. DeLee.
64 *Pathogenesis of Locomotor Ataxia. G. B. Hassin.
65 *Semilunar Cartilages; Their Anatomy and Surgery. H. A. Sifton.
66 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

64. Pathogenesis of Locomotor Ataxia.—Hassin's article on this subject is concluded in this issue. He finds that tabes dorsalis is the result of an affection of the posterior roots of the spinal cord; chiefly mechanical, due to compression on the part of the membranes of the spinal cord or of the brain. Its cause is everything that may produce meningitis, taking cold, sexual abuses and infectious diseases, chiefly syphilis. The treatment must be mechanical; surgical in those forms of tabes where it can be applied (tabes cervicalis, tabes dorsalis). Such treatment, if taken early, will stop further development. In studying the clinical forms of tabes, all the newest methods applicable in the study of meningitis must be applied: Kernig's symptom, cryoscopy, cytoscopy and hemolysis of the spinal fluid of tabetic patients. Hassin presents elaborate arguments in support of this view of the pathogenesis and urging the importance of the minutest microscopic examination of the spinal membranes and the brain and experimental research for better knowledge of the subject.

65. The Semilunar Cartilages.—Sifton has found comparatively little literature in regard to injuries of these bodies. Simple displacement of the cartilage in the knee would be often taken for sprain. The joint will usually be locked in a position somewhat short of complete extension. This symptom is not found in any other injury of the joint except in cases of a floating body which is practically the same as a loose cartilage. For treatment the cartilage should be reduced if possible; if it is torn loose it can not be reduced by any form of manipulation, but if it is only dislocated it can readily be replaced by fully flexing the knee, rotating it outward or inward and then quickly extending it. If the cartilage is prominent, pressure should be made on the prominent point, while manipulations are carried on. Any form of splint which can give the knee rest should be applied. After a week this splint should be removed daily for careful massage and passive movements. Eight to twelve weeks are required for the cartilage to become fixed after the first injury. Some cases, however, do not completely recover and are likely to get out of place again at the slightest provocation. Elastic knee bandages and braces are then worthless, and relief can be obtained only by operative measures, completely removing all detached or loose portions of the cartilage. The operation should be under the most careful asepsis. He describes his technic as follows, with the details of 2 cases operated on:

The best form of incision for the removal of a semilunar cartilage is the U-shaped, with the convex border towards the patella. Turning the flap down to the required extent the joint is opened by a transverse incision above the upper surface of the cartilage. This incision should be made as far above the cartilage as possible, for the reason that there is a considerable artery immediately beneath the lower border which might be wounded if the incision was made close to the cartilage. I believe that the U-shaped incision of the skin and overlying tissues is much preferable to a straight incision, for the reason that it divides the resulting scar into three parts and is, consequently, more flexible than if all the tissues had been divided in the same line. If the incision is carried well forward it will not be necessary to interfere with the lateral ligaments, ample room being obtainable by running the cut well forward. By retracting the patella and manipulating the joint a good view of one-half of the knee is easily obtained. As above stated, I would not recommend, under any circumstance, an attempt to suture the cartilage, but would remove all the detached portion. This can best be done by a strong, narrow-bladed scissors. I think no fluid should be introduced into the joint unless considerable hemorrhage has been encountered and it becomes necessary to wash out blood clots which have accidentally obtained access to the cavity. The rule which should always be followed is to produce as little traumatism as possible and attain the object necessary. The joint should be closed by a continuous, fine catgut suture and the skin incision then closed. The limb should be put at rest by means of a plaster dressing for two weeks, at the end of which time, the wound being entirely united, gentle manipulation of the joint is commenced, the patient being also allowed to bear some weight on the leg.

Physician and Surgeon, Detroit and Ann Arbor.

July.

67 *The Iodin Reaction in Surgery. Conrad George.
68 *Pathologic Changes Following Lacerations of the Cervix. Ralph L. Morse.
69 *Displacement of the Pelvic Organs. James G. Lynds.

67. The Iodin Reaction in Surgery.—This reaction which has been known for over twenty years and with which the leucocytes of the blood contain granules showing a reddish-brown stain with iodin, has been studied by George. He finds as a general result of his investigation that the reaction alone and apart from a study of the history of the case is not of much value. It can be regarded as a symptom of a little more value than leucocytosis, but not as pathognomonic in any degree. The diagnosis of abscess or sepsis can only be made by a careful study of the reaction in connection with other symptoms, and no one symptom can be taken as an indication for operation.

68. Cervical Lacerations.—Morse reviews the pathologic changes of cervical lacerations, the variations in the columnar epithelium, stimulating it to proliferation, and the acid and infected vaginal secretions producing so-called erosions and probably favoring the occurrence of malignant disease.

69. Displacement of the Pelvic Organs.—Lynds holds that in a considerable proportion of cases, especially with a large, heavy, retroverted uterus with lacerated cervix and prolapsed and diseased appendages and the patient nearing the menopause, he would remove the organs. In younger patients he would amputate or repair the cervix and perform an anterior or posterior colporrhaphy as indicated, and strengthen the pelvic floor. Then, if necessary, he would perform a ventrofixation or shorten the round ligaments as seems best. In many cases, however, anterior fixation does not prevent a return of the prolapse. His experience has been that even in partial procidentia the greater amount of the suffering is only partially, if at all, removed by the internal shortening amputation and operation on vagina of the organs. He does not advocate hysterectomy in all cases of prolapse, or even in all cases of procidentia, but thinks there is a class of cases where nothing short of it will give relief. Each case must be studied individually. There are few conditions requiring greater judgment as to the measures to be taken.

Texas Medical News, Austin.

August.

70 The Public Control of Tuberculosis. William S. Carter.
71 Appendicitis from a Surgical Point of View. A. B. Small.
72 Acute Traumatic Tetanus. R. McDaniel.
73 Herpes Zoster. The Use of Faradic Current for the Pain and Permanent Relief of this Annoying Symptom of Derangement of the Special Nerves Affected. E. N. Shaw.

Chicago Medical Recorder.

September 15.

74 *Some Causes of Bladder Hemorrhages Not Commonly Recognized. Louis E. Schmidt.
75 The Physician as a Business Man. Darwin R. Stockley.
76 Brown-Sequard Paralysis. R. S. Loving.
77 Medical Gymnastics and Massage in the Treatment of Sprains. Carl Kellberg.
78 *Notes on the Treatment of Puerperal Infections. Thomas J. Watkins.
79 Chronic Bright's Disease and Diabetes Mellitus; Diagnosis; Cause and Similarity. B. F. Felch.
80 *Improved Methods and Details in the Care of Patients During Surgical Operations. Fenton B. Turck.

74. **Bladder Injuries.**—Among the causes of bladder hemorrhages not usually recognized by the physician, Schmidt enumerates ulceration due to breaking down of gonorrheal infiltration of the mucosa, atheromatosis of the blood vessels, cystitis with extravasation, varicose degeneration of the bladder veins, a peculiar condition of the mucosa of the trigonum making it appear fluffy, like a piece of fine fabric and bleeding at the slightest irritation, which has been seen as yet only in women, and direct medical interference such as bi-manual examination or obstetrical operations, and traumatic granulation of the bladder which follows injuries to an already inflamed bladder wall.

78.—This article appeared elsewhere. See THE JOURNAL of July 4, title 74.

80. **Protection During Surgical Operations.**—Turck describes two or three improvements in the technic of surgical operations. For instance, to avoid peritoneal contamination in abdominal operations he proposes a square sheet of rubber dam with two small openings 3 to 6 in. apart, reinforced by a rubber band forming a collar. This is laid over the wound and the part to be incised, the stomach, for example, in gastro-enterostomy, is drawn through one of the openings, which stretches and hugs closely to the protruding viscus. The loop of intestine selected for the anastomosis is drawn through the other opening. The two parts drawn through the opening are completely isolated from the rest of the peritoneal cavity, as the rubber overlaps the edges of the wound. When the anastomosis is performed the shield is slit open with scissors, the viscera set free, and replaced in the abdominal cavity. Contamination of the peritoneum as the viscera are opened is absolutely prevented. The constricting band around the viscera also prevents hemorrhage and any considerable escape of their contents. The same principle can be used in different operations such as cholecystotomy. As the rubber-covered viscus is grasped and not the viscus directly, there is less danger of injury. Another valuable protective device is what he calls a rubber drainage coffer-dam. Around the drainage tube at the point of insertion—as for example in cholecystotomy where drainage of the gall-bladder is desired—the thin flexible rubber cylinder is stretched around the neck of the gall bladder, and fits snugly to the outer wall, but not enough to shut off circulation. A few stitches hold it in place. A drainage tube is then inserted within the rubber cylinder and stitched into the gall bladder in the usual way. Between the inner drainage tube and the coffer-dam a few strands of suture material are placed for drainage. Gauze can be packed around it in the usual way. Other devices which he uses for preventing shock are small, thin, hot-water bags inserted into the abdominal cavity and the use of heat stimulation of the soles of the feet to prevent shock. To provide heat at a constant temperature during surgical operations he has devised what he calls hot-water-coil slippers, a device which has been of service in the prevention of shock in his own experience. Even when shock is not imminent the use of heat to the soles has a good effect on the circulation and better elimination is established.

Dominion Medical Monthly, Toronto.

August.

81 *The Buried Animal Suture; Its Value in Aseptic Surgery. Henry O. Marcy.
82 *The Operative Treatment of Goiter. George A. Bingham.
83 Successful Operation on Four Cases of Goiter in a Septic Condition. Herbert A. Bruce.
84 His Mother's Legacy. Robert A. Hood.

81. **Buried Sutures.**—Marcy gives the history of the use of buried animal sutures (preferably tendon) and points out their utility. He thinks the time will come when they will hold the first place in the technic of modern aseptic wound treatment. He advocates the continuous rather than the interrupted sutures, as they do not leave pockets for the accumulation of fluids, and a parallel rather than a glover's stitch, the needle inserted within the tissue parallel to the long axis of the wound, each succeeding stitch made by introducing the needle exactly opposite the emergence of the preceding one. The continuous suture, moreover, requires but a single knot, and is less liable to produce undue constriction since compensation occurs, equalizing the force applied to the entire suture. This he considers of the utmost importance since injury and devitalization follow the earlier method. Fatty tissues should be avoided for buried sutures, but they seldom require independent suturing. He remarks that the interrupted suture is the legacy of the fathers, and was used for the purpose of removal of a stitch as desirable. If our tailor made our clothes in this manner we should wonder at his bungling methods.

82. **Goiter.**—While a case of benign goiter should only be operated on for relief of definite symptoms, in malignant disease excision of the gland is the only hope. To avoid compression of the important organs Bingham would operate even in advanced malignant disease. He has also operated in exophthalmic goiter and thinks that any case failing to respond to prolonged medical treatment with steady increase of growth should be given the benefit of operative interference. These cases are somewhat more dangerous as regards anesthetics, but he has used chloroform, though the ideal would be local anesthesia. In bad cases of dyspnea he stops the anesthetic as soon as the skin incision is done, and thinks by the intelligent co-operation between surgeon and anesthetist, the patient can be nursed along through the operation without suffering and with a minimum amount of damage, and, being so lightly anesthetized, by his unconscious phonation is able to give an assurance of the safety of the recurrent laryngeal nerve. He makes a shallow U-shaped incision across the tumor from one sterno-mastoid to another, passing through the skin and subcutaneous tissue, platysma and deep cervical fascia. Two flaps dissected up and down, and if necessary the anterior jugular is cut between ligatures. Then the pretracheal layer of the cervical fascia is very carefully incised in the median line. Just below this the capsule of the tumor appears. If it is opened up hemorrhage may be difficult to control. The surgeon should work outside but close to the capsule. The opening in the pretracheal fascia is enlarged as required, the finger introduced, and adhesions between the fascia and capsule broken down. It is then swept around the outer and upper margin of the tumor, forcing the pretracheal fascia and muscles over the edge of the mass, and the superior thyroid vessels are recognized and cut between clamps. This usually releases the outer part of the lobe, which may now be drawn forward and with the finger everything is stripped away from the posterior wall of the capsule. If care is taken to strip closely and from the posterior part of the capsule, the recurrent laryngeal will be pushed away from the inferior thyroid vessels or tied off close to the tumor and the lobe is completely freed, and we see the rings of the trachea to which the isthmus is adherent. No violence must be used in separating the isthmus. The tracheal wall will probably be atrophied by pressure and special care is required. He has often left a portion of the isthmus rather than risk its separation. The junction of the isthmus with the opposite lobe is now transfixed with silk and tied off and the mass cut away. The ligating of the pedicle, while unnecessary so far as hemorrhage is concerned, serves a purpose, he thinks, in preventing the escape of thyroid secretion into the wound. Every possible bleeding point should be tied and care taken to obliterate the huge "dead space," which he does by a series of quilting sutures. Temporary drainage is employed by the Cheyne method, cutting a buttonhole through the lower flap, just above the sternum and drawing a small tube through, the inner end of which lies in the lower part of the wound behind the sternomastoid. A provisional suture is placed in this little wound and tied when the tube is withdrawn after forty-eight hours. If the pretracheal or sterno-mastoid muscles have been cut, they should be sutured and the wound in the pretracheal fascia closed, running a suture of fine silk close against the wound and applying plenty of dressing. The head is supported between two sandbags. The nurse is instructed to prevent any violent movement of the head when the patient is recovering consciousness, and to compress the dressing gently during vomiting. Tachycardia

and high temperature may be controlled by digitalin and ice bags. In case of adenoma or cystoma of the thyroid, the procedure is modified. The capsule is cut through, the tumor enucleated and hemorrhage is rapidly controlled. There may be partial or complete aphonia after the operation, but it is usually only temporary.

Medical Summary, Philadelphia.

September.

85 A Case of Skin Grafting by Skin Scrapings. Carl Seiler.
86 The Treatment of Acute Dysentery. Robert C. Kenner.
87 Exterminate the Fly; He Is an Insidious and Formidable Foe. William H. Vail.
88 Opium and Its Effects on the System. J. L. Wolfe.
89 The Therapeutic Value of Sulphur; Some Phases of Indigestion. A. Atkinson.
90 Passiflora in Nervous Reflexes. O. Henley Snider.
91 Body Protection vs. Financial Protection. N. B. Shade.
92 Dr. Littlefield's Discovery. Luigi G. Doane.
93 Typhoid Fever. J. A. De Armand.
94 Concordia Discors—Discordant Harmony. F. S. Tripp.
95 Flash Lights. Zachary Taylor.

Memphis Medical Monthly.

September.

96 Uterine Conditions Demanding the Services of the General Practitioner. T. J. Happel.
97 Notes from a General Practitioner's Case Book. John A. Blackmon.
98 Some Notes from the Eye and Ear Service of the City Hospital, May and June, 1903. E. C. Ellett.
99 Something About Finsen Light Treatment. Eaton K. McNeill.
100 The Technic of Urinalysis. B. F. Turner.
101 Hepatic Abscess Following Appendicitis. Frank D. Smythe.
102 Leukemia; Leucocythemia. William B. Burns.

Merck's Archives, New York.

September.

103 Phytolacca Decandra. W. H. Blake.
104 The Use of Ichthyol in Diseases of the Upper Respiratory Tract. Lewis S. Somers.
105 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.

Colorado Medical Journal, Denver.

June.

106 Anesthesia, with Special Reference to the Use of the Schleich Principle. Robert M. Stone.
107 Case of Exophthalmic Goiter Accompanied by Dysmenorrhea. Minnie C. T. Love.
108 Report of a Case of Gastric Ulcer. Saling Simon.

Journal of the Kansas Medical Society, Topeka.

September.

109 Conservatism in Pelvic Surgery. F. H. Martin.
110 Traumatic Epilepsy; Report of a Case. A. Haggart.
111 Ethics and State Legislation Controlling the Qualifications to Practice Medicine. George A. Boyd.

Northwestern Lancet, Minneapolis.

September 15.

112 Some Problems in Gynecologic Surgery. A. E. Benjamin.
113 The Surgical Prospect of Gastric Cancer. J. H. Dunn.
114 Case of Sarcoma of the Femur Recurring After Amputation and Cured by Injections of Coley's Fluid. H. B. Sweetser.
116 Fatal Poisoning by Oil of Chenopodium. Edwin T. Ramsey.
117 Aristochin; a New and Better Quinin Preparation. E. Klaveness.

Virginia Medical Semi-Monthly, Richmond.

September 11.

118 Remarks About Eye Injuries, with Cases in Point. Joseph A. White.
119 A Case of Ptomaine Poisoning Simulating Smallpox. Llewellyn Eliot.
120 Properties of the Syrup of Iodid of Iron. M. D. Hoge, Jr.

Denver Medical Times.

September.

121 Ophthalmic Neonatorum, with a Brief Report of 50 Cases. L. W. Snow.
122 Subscription Problems. C. F. Taylor.
123 A Clinical Outline of Dropsies. Edward C. Hill.

Medical Age, Detroit.

September 10.

124 Acute Suppurative Ethmoiditis. John A. Thompson.
125 Report of a Case of Pancreatic Cyst. William F. Cheney.
126 Origin and Development of Human Sensation and Thought from an Embryologic Standpoint. J. M. Fort.

Oklahoma Medical News-Journal, Oklahoma City.

September.

127 Placenta Previa. P. J. Bartle.
128 The Importance of Urinalysis in the Diagnosis of Disease. W. E. Dicken.

Journal of Medicine and Science, Portland, Me.

September.

129 General Practitioner or Specialist in Medicine? Is It to Be One or Both? Franklin Staples.
130 Some Interesting Cases Treated in the Maine Eye and Ear Infirmary, Portland, May, 1903. F. C. Lord.

American Medical Compend, Toledo, Ohio.

September.

131 Surgery of the Biliary Tract; Report of Cases. Hal C. Wyman.
132 Are There Specifics in Medicine? J. B. Casebeer.
133 A Few Thoughts on Tuberculosis. J. P. Dewitt.
134 A Few Remarks Concerning Uremia. Auguste Rhu.
135 The Successful Treatment of a Severe Case of Diphtheria. E. Park Edwards.

Kansas City Medical Index-Lancet.

September.

136 Paralysis Agitans, Complicated with Delusional Mania, with Report of Case. John Punton.
137 Ulceration of the Bowel. J. R. Phelan.
138 The Emergency Treatment in Cases of Acute Poisoning. Richard L. Sutton.
139 The Clinical Use of Pepto-mangan. John Punton.

Medical Fortnightly, St. Louis.

September 10.

140 Human Asymmetry. Maskel Lee.
141 Smallpox. James E. Free.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

[NOTE.—The *British Medical Journal* and the *Lancet* of September 5, being their "educational numbers," contained no original articles.]

British Medical Journal, London.

September 12.

1 *Inoculability of Human Tuberculosis on Bovines. D. J. Hamilton.
2 *Two Cases of Obliterative Arteritis in Young Men Leading to Gangrene in Extremities. E. Michels and F. Parkes Weber.
3 *A Discussion on Miners' Phthisis. Thomas Oliver, J. G. Adami and others.
4 *Discussion on the Pathology of Splenic Anemia. H. D. Rolleston and others.
5 Changes in the Spinal Cord in a Case of Diphtheria and of Alcoholic Paralysis. J. Michell Clarke.
6 The Purin Bodies of Human Feces in Health and Disease. I. Walker Hall.
7 Classification Cards for Use in Bacteriology. Kenneth Goadby.
8 A New Method for the Determination of Uric Acid in Urine. A. F. Dimmock and F. W. Branson.
9 Leucocytosis and Lymphocytosis in Malignant Disease, Lymphadenoma, Leukemia, etc., with Tables of 42 Blood Examinations. F. G. Bushnell.
10 Case of Syphilitic Nephritis in an Infant Aged 5 Months. George Carpenter.
11 *Adenoid Vegetations in Infancy. R. C. Dun.

1. **Human and Bovine Tuberculosis.**—Hamilton replies to the critics of his experiments and claims that the tests were adequate and conclusive. He admits that in 4 of the 19 cases of calves inoculated with human tuberculosis a negative or doubtful result was obtained. The criticism made that he did not use the tuberculin test in all his experiments he thinks is useless. If the tuberculin test had been made the charge might then have been that immunity was produced by it. In regard to two cases inoculated with human tuberculosis from one calf to another, with the result of increased virulence, he maintains they were not due to mere accidental over-susceptibility of the animals employed. The opposite side of the question—whether bovine tuberculosis is transmissible to man, of course, can never be proven experimentally.

2. **Obliterative Arteritis.**—In the two cases described by Michels and Weber there was no obvious cause of the endarteritis. The authors seem to think there is a variety of obliterative endarteritis commencing in the arterioles of the extremity, especially in the muscles and subcutaneous tissue, that may possibly be explained by the presence of a nervous element, though the peripheral nerves were found normal. The presence of a nervous etiologic element would form the connecting link with some cases of Raynaud's disease and erythromelalgia.

3. **Miners' Phthisis.**—The subject of miners' phthisis is discussed by Oliver, who arrives at the following conclusions, which, he thinks, cover the points for discussion:

1. That miners' phthisis is not the result of the inhalations of gases given off by the strata, nor evolved by the explosives used in mines. 2. That it is a disease in which there is a marked

excess of fibrous tissue in the lungs, embedded in which can be seen numerous particles of coal dust and silliceous material; in which also cavities may be seen and tubercle occasionally detected. 3. That it is a disease of occupation, due to the irritating action of dust, which renders the individual liable to repeated catarrh; that it is non-tuberculous, not only in the early stages, but may even remain non-tuberculous throughout; that when tubercle is present it is an accidental infection, which, while hastening the end, does not exercise any very marked influence on the pre-existing structural alterations caused by dust, unless it be a tendency towards disintegration. 4. That it is a local disease, purely personal to the individual, and never assuming hereditary characters. 5. That, accepting this view of the pathology of the disease, miners' phthisis, as experience in this country has shown, may be largely prevented by improved ventilation and by the adoption of means for the removal of dust or for the allaying of dust by water.

In the discussion following Adami agreed with Oliver that the disorder was non-tuberculous, as did also Hamilton, who considers it rather an aseptic sloughing due to the altered condition of the lung; that is, in coal miners. In stone masons the lung complication with tubercle at the time of death or sometimes before is frequently met.

4. **Splenic Anemia.**—By this disease Rolleston understands a condition characterized by splenic enlargement and not correlated by any known cause, with absence of enlargement of the lymph glands, and with anemia of a type midway between secondary anemia and chlorosis. The disease is also characterized by leukopenia or at least no increase of the white blood corpuscles. It has an extremely long course, lasting years with a tendency to periodic hemorrhages, especially of the gastrointestinal tract. He reviews the conditions, the morbid anatomy, especially of the spleen, bone marrow and lymph glands and sums up the important points as follows:

1. Accepting chronic splenic anemia as a clinical entity, is there sufficient evidence to accept it as an established pathologic entity? 2. What significance can be attached to the structural changes in the blood, spleen, bone marrow, etc.? 3. What is the exact relation between splenic anemia and Banti's disease? 4. What is the nature of the disease? Is it an intoxication or an infection? Until the last question is fully answered, any reply to the first must either be suspended or be in the negative.

The subject was discussed by several authorities, among them Senator, who concludes that the reason for the swelling of the spleen is to be found in an abnormal blood condition due to various causes; in some cases, such as those occurring with malaria, rickets, etc., this may be due to a specific blood alteration due to the original infection. In other cases of unknown etiology it must be assumed that injurious substances reach the blood from the intestinal tube through the lymphatics. This is justified by the fact that the abdominal lymph glands are always more or less involved, even where no other swollen glands are found. The spleen is the primary point of attack, and this is supported by the fact that in a number of cases the disease was cured by splenectomy.

11. **Adenoids.**—Dun has observed cases in the Liverpool Infirmary for Children and finds from his studies that in the great majority of cases the symptoms are slight and do not materially affect the health and development of the child; that medical treatment is sufficient and operative interference uncalled for. On the other hand, there are some cases, comparatively few in number, with definite and severe symptoms, producing marked ill health, usually symptoms of nasal obstruction and catarrh with occasional reflex nervous phenomenon and septic processes. These cases are most satisfactorily treated by removal of the growths.

The Lancet, London.

September 12.

12 *The Influence of Brain Power on History. Norman Lockyer.
13 *Some Points in Abdominal Surgical Diseases. E. Stanmore Bishop.
14 *On the Virulence of the Bacillus of Bovine and Human Tuberculosis for Monkeys. Allan MacFadyen.
15 Bromid of Ethyl as a General Anesthetic and as a Preliminary to Ether. William R. Huggard.
16 On the Detection of Lead in Urine and Postmortem Specimens. J. W. Mellor and Frank Shufflebotham.
17 A Case of Umbilical Calculus. J. R. Harper and C. G. Seligmann.
18 A Case of Splenic Anemia. George Peacock, Thomas E. Gordon and J. Alfred Scott.
19 A Case of Rupture of the Esophagus from an Accident. T. R. C. Whipham.
20 *The Treatment of Cancer and Other Forms of Malignant Disease by Electric Osmose. Clarence A. J. Wright.
21 *The Treatment of Plague by Large Doses of Carbolic Acid Given Internally. J. Mitford Atkinson.
22 A Case of Presumed Ptomaine Poisoning. T. B. Broadway.
23 Postgraduate Work Abroad. 1. Paris. A. A. Warden.

12. **Influence of Brain Power on History.**—The title of Lockyer's address is a paraphrase of the well-known work of Capt. Mahan on "The Influence of Sea-power on History." Lockyer compares the educational facilities and the universities of Great Britain to those of Germany and the United States, greatly to the disadvantage of the former, and claims that as the work of Capt. Mahan has aroused the British nation to its needs for naval defense so it should be stirred up to national effort to meet the competition of outsiders in the matter of education. He says to sum up:

I have endeavored to point out to you how the nation at present suffers from the absence of a powerful, continuous, reasoned expression of scientific opinion, urging that we shall be armed as other nations are, with efficient universities and facilities for research to uphold the flag of Britain in the domain of learning and discovery. I have also endeavored to show that, in addition to our many existing councils, another is required to secure that the benefits which a proper co-ordination of scientific effort in the nation's interest can bring shall no longer be neglected. Let me also remind you that in 1859, when the late prince consort occupied this chair, he referred to "impediments" to scientific progress, and said: "They are often such as can only be successfully dealt with by the powerful arm of the state or the long purse of the nation."

13. **Abdominal Surgical Diseases.**—Bishop calls attention to certain points in regard to abdominal surgery, especially the question of perforation in appendicitis, in gastric and duodenal ulcer, etc. He discusses the symptoms and illustrates by cases the points he makes. He says the abdominal cavity with the structures contained in it may be pathologically looked on the same as a large joint, and the first and automatically present result of inflammatory changes in the peritoneum will be and must be rigidity of the muscles, which ordinarily produce movement between the intestines and abdominal wall. It is more important to emphasize this because it is not persistent, but may disappear early in the case. This particular factor will apply to any case of perforation, duodenal, gastric, enteric or appendiceal and slighter and more localized degrees of it may be seen in localized peritonitis. The fact of having one certain sign to rely on as evidence renders the absence of that sign a tremendous comfort to all concerned. Another point is that of intussusception. Here he calls attention to the misleading remarks on diagnosis of some of the text-books, viz., the classical symptom of sausage-shaped mass in the abdomen, the passage of blood and mucus in the stools, the sudden pain and vomiting and an os-uteri-like body to be felt per rectum. He remarks that if we are to look for any thickened segment of the intestine in these cases that must be at the time it is contracted on itself which is during a paroxysm of pain. It is just at this time that the examination is apt to be neglected. The child is crying violently and is turned over to its mother to be soothed and petted into peace. Then when he is quieted again, when both he and the muscular contractions of his bowel are exhausted, the examination is resumed, and failing to find any trace of it, its existence is ignored. Another symptom often missed, but which must be present in every case, is a bloody exudation of mucus. Intussusception means more than simply the compression of one segment into another; it means strangulation of the mesenteric vessels to some extent. The fluid is prevented from escaping and the capillaries are enlarged. Blood is effused into the lumen of the gut. As for feeling for the end of the intussusception per rectum, it is a most dangerous waste of time. Consider how far it must travel in, say the ileocecal variety, which is the most common, before it can possibly come within the reach of the finger. He also points out the hopelessness of attempting to reduce intussusception by the injection of air or water and is dubious as to the reported cases of success in this way. Maunsell's operation is the only resource. He also notices ectopic gestation and its diagnostic points. The points on which he lays stress are the occurrence of abnormal blood discharges in women with some of the signs of early pregnancy who have had a missed or even slightly delayed period and who complain of pain in either or both thighs extending toward the knee in the course of the obturator or anterior crural nerve. Bi-manual examination in such cases should be done at once. If a small mass is found beside the

uterus, abdominal section should be done at once without delay. Another condition in which somewhat similar symptoms may occur is that of tumor in which the pedicle is twisted, and the tumor becomes engorged. This may occur from a fall or from no apparent cause at all, but there is usually some previous history of an abnormal mass to suggest the condition to be found.

14. Bovine and Human Tuberculosis.—MacFadyen has experimented on monkeys with bovine and human tubercle bacilli and found that the animals proved susceptible to the bacillus of bovine tuberculosis either directly or after one passage through the organism of the guinea-pig.

A certain number of the animals died in two or in ten days after feeding with bovine and human tuberculous material. Normal human sputum did not produce this effect and the result suggested some form of intoxication. The monkey fed thrice, twice, or once with the bovine material succumbed to a general tuberculosis in from about one to two months, and, fed with the human material, the same results and fatal effect were produced in about the same period of time. The young monkey proved to be equally susceptible to the bovine and human strains of the tubercle bacilli. The striking difference in the effects produced occurred in the digestive tract. Intestinal lesions were found in the case of every monkey that had been fed with human tuberculous material, while none of the monkeys fed with the bovine material presented any evidence of tuberculous ulcers in the intestine. Within the limits of these experiments it would appear that virulent bovine tubercle bacilli may pass through the intestinal wall in large numbers without any detectable lesion of the gut being produced. It would also appear that a food tuberculosis can be as readily brought about by the bovine as by the human strain of the tubercle bacillus in the young monkey.

20. The Electric Treatment of Cancer.—Wright describes the mechanism of cataphoresis and gives the results of his experiments with it in cancer. He finds that the mineral acids thus used would cause a resolution of the skin and tissues, while the metallic salts give rise to necrosis. Alcohol gives rise to the immediate coagulation of albuminous constituents and produces subsequent fibrosis. With liquid paraffin substances can be transferred into the tissues. Iodin, salicylate of soda, lithium, salts and pilocarpin produce their own specific reactions. In his experiments on cancer he employs either a dilute glycerophosphate alcoholature or liquid paraffin in emulsion as a vehicle for the salts employed. The chief of these are cinnamate of strontium, glycerophosphate of lime and strontium, citric acid, iodin, and suprarenal extract. He relies mostly on the first named, but the glycerophosphates have proven useful in assisting in casting off a slough and promoting healing after an application of acid nitrate of bismuth. Citric acid is used for subduing neuralgic pain either alone or in conjunction with phenazonum. Iodin is chiefly used for reducing the indurated glands and promoting absorption, although a strong solution was occasionally used for escharotic effects on the tissues. The suprarenal extract he employed as a preliminary to treatment in most sittings to limit absorption and concentrate the action of the drug. Of the 23 cases of which he has notes he has had good results in 5, which he reports.

21. Carbolic Acid in Plague.—Atkinson reports six cases of plague treated by large doses of carbolic acid; 10 gr. being given every two hours for various periods, internally. The blood examination was made for the bacilli during treatment and they were found to have disappeared.

Journal of Tropical Medicine, London.

September 1.

24 *Observations on Akatama, a West Central African Disease. Frederick C. Wellman.
25 Mosquitoes in Relation to Malaria in the Province of Huelva, Spain. Ian MacDonald.

24. Akatama.—This is the name given to a sort of peripheral endemic neuritis of obscure origin, characterized by numbness and intense prickling and burning sensations in the presence of cold or damp which are temporarily relieved by the application of dry heat. It is found all over the territory occupied by certain tribes in West Africa in whom 3 to 5 per cent. are more or less disabled by it. The theories of the disease are various. The more probable would be that it might be due to sudden changes of temperature, though the prevalence of the disease is not always coexistent with the exposure. Its being an intoxication analogous to beri-beri is possible, but there are no motor symptoms and it is not especially localized or affected by change of residence. The theory of nerve starvation is not borne out since these tribes are well fed. The diagnosis is easy; the patient himself generally understands what is the matter with him. The prognosis is good as to life and general health, but the treatment is unsatisfactory. Some cases seem to undergo a spontaneous cure.

Presse Medicale, Paris.

26 (No. 69.) La thérapeutique par les agents physiques au XVIII siècle. A. Brocchi.
27 *Torsion du pedicule des cystes du ligament large. P. Sikora.
28 (No. 70.) La survie au point de vue médico-légal. P. A. Mesnard.
29 Schémas dulbo-protubérantiels. P. Bonnier.
30 Fracture de la base du crane (of the skull). A. Mignon.

27. Cysts in Broad Ligament.—Sikora reviews 3 cases and adds another personally observed in which a large cystic tumor, supposed to be an ovarian cyst, proved to be a parovarian cyst with a twisted pedicle. The pedicle is always wide, 4 to 6 cm., and the torsion is never abrupt, but slow and gradual. The hemorrhage was always too small to induce appreciable symptoms.

Semaine Medicale, Paris.

31 (XXIII, No. 35.) *L'hérédité pathologique et la théorie du plasma germinatif. S. Jankelovitch.

31. Pathologic Heredity.—Jankelovitch discusses the later scientific researches which show that in certain families there is an undue tendency to alkalinity of the plasm or to toxicity on the part of the organic fluids or to hypothermia, thus checking the vital action of the phagocytes, or some other similar abnormal condition transmitted from generation to generation which the clinician may in time learn to determine with precision. He accepts this as the scientific foundation for the old theory of the "predisposition" and the mystic conception of the "temperament." Weismann's theory of the germ plasm does not interfere with this conception of pathologic heredity. Admitting that all the ancestral properties are localized in the innumerable biophores or molecules of the germ plasm, we may easily assume a number of combinations between them sufficient to explain all the variations which may occur in the descendants of a single family. We can conceive that the spermatozoa and the ova do not all possess absolutely identical properties, and consequently the product of each fecundation will have only the properties derived from a single spermatozoön and a single ovum. The resulting combination of properties varies for the product of each fecundation.

Archiv f. Gynaekologie, Berlin.

Last indexed XL, page 1685.

32 (LXIX, No. 1.) *Fractured Pelvis. L. Blumreich.—Zur Lehre vom Frakturenbecken.
33 *Ueber die Behandlung der Placenta previa mit der Methode Bossi. W. de Paoli (Genoa).
34 *Changes in Ovaries Accompanying Uterine Tumors and Vesicular Mole. E. Runge (Dresden).—Ueber die Veränderungen der Ovarien bei syncytialen Tumoren und Blasenmole, zugleich ein Beitrag zur Histogenese der Lutein-Cyste.
35 *Study of Two Cases of Death in Eclampsia. L. Seitz.—2 sub partu verstorbene Fälle von Eklampsie mit vorzeitiger Lösung der normal sitzenden Plazenta; mikroskopische Befunde an Plazenta und Eihäuten.
36 *Anatomische und klinische Beiträge zur Vaporisation des Uterus. H. Fuchs (Kiel).
37 *Differentiation of Fetal Heart Sounds and Umbilical Sounds. O. Hoehne (Ibid.).—Zur Differential-Diagnose von Nabelschnurgeräusch und fötalem Herzgeräusch und zur Indikationsstellung bei intra partum erkannten fötalem Herz-Fehler.
38 *Experiences in Treatment of Suppurative Affections of Adnexa and of Pelvic Connective Tissue. P. Jung (Greifswald).—Erfahrungen bei der Behandlung eitriger Aff. der Adnexe und des Beckenbindegewebes.

32. Fracture of Pelvis.—Blumreich's patient fell from a second story when she was 18, alighting on the left side. This side of the pelvis became obliquely contracted, and during childbirth 5 years later did not participate in the birth act. The fetus was perforated, but in a second pregnancy she was delivered of a living child, 42 cm. in length, after application of the metreurynter. Delivery occurred as in case of a generally contracted pelvis.

33. Treatment of Placenta Previa by Bossi's Method.—De Paoli reports 19 cases thus treated. The portio was dilated in five to twenty-five minutes without laceration sufficient to

require suture. One of the mothers and 3 of the children succumbed. The purpose of the Bossi method in such cases is solely to prepare the way for immediate extraction of the fetus. De Paoli advocates it instead of cesarean section for placenta previa, and in other cases in which the mother's life is in danger. He thinks asepsis is more certain with it than with metreurynters, etc., and that it is a boon to the general practitioner.

34. **Changes in Ovaries Accompanying Uterine Tumors.**—Runge investigated the adnexa in 7 cases of "syncytial tumors" and in 1 of a vesicular mole, and found the ovaries in cystic degeneration in each instance. The lutein cells also exhibited a marked tendency to proliferation. He did not find these changes in the ovaries accompanying other uterine tumors. He reviews the literature on the subject and adds that the changes described are not the inevitable accompaniment of the moles or tumors. In a recent case an ovarian tumor was found with the structure described, and inquiry revealed a history of expulsion of a mole two years before.

35. **Microscopic Study of the Genitalia After Death in Eclampsia.**—Seitz discovered evidences of inflammation in the decidua, involving part of the fetal membranes and the uterine musculature, in a case of eclampsia in which the patient died during delivery. In a second, similar case nothing of the kind could be detected. The findings are illustrated in colored plates.

36. **Application of Steam to Uterus.**—Fuchs reports 103 cases of hemorrhage treated at the Kiel clinic by curetting and vaporization. In 68 more than four months have elapsed since treatment was concluded, and in 60 of these the treatment has proved a permanent success. The most strikingly favorable results were obtained in cases of preclimacteric hemorrhages. Of course the procedure is applicable only to women past the child-bearing age or as an alternative to extirpation of the uterus. After mild curetting the steam is applied for thirty seconds, at a temperature of 120 C., and the patient is kept in bed for a week to ten days afterward. He gives a cut of the simple apparatus, the steam generator with the thermometer in the top, the small, long tube conveying the steam and the large, protecting "celluvert" tube that is slipped over the steam tube to prevent burning the vagina, etc.

37. **Differentiation of Fetal Heart Defect by the Sounds.**—Hoehne diagnosed, intrapartum, a fetal cardiac defect, confirmed by the anatomic findings. He noticed a rough sound, not synchronous with the maternal pulse, diffused over an area corresponding to the fetal heart while the usual fetal heartbeat was perceptible. This diagnosis was made in 6 out of 7 cases on record. Five of the children died, and the necropsy revealed tricuspid stenosis in 4 and aortic in 1. Two of the children survived, with no special abnormalities.

38. **Experiences with Suppurative Pelvic Affections.**—Jung states that the mortality of 134 cases of suppuration in the pelvis under observation at Greifswald, was 20.5 per cent.; while it was 18 per cent. of the 117 cases operated on. In a third of the fatal cases a communication between the tubal pus pocket and the rectum was discovered, sometimes no larger than a hair in diameter. The pus contained pyogenic cocci in 35.8 per cent. of the total cases; tubercle bacilli in 24.6 per cent., and gonococci in only 14.8 per cent. The mortality in 72 operations without drainage was 23.6 per cent., and 25 per cent. in the 20 cases drained. He has abandoned the practice of rinsing out the cavity, as he found that it washed germs into remote and inaccessible parts.

Archiv f. Klin. Chirurgie (Langenbeck's), Berlin.

Last indexed page 583.

39 (LXX, No. 3.) *Ueber die operative Behandlung der otitischen Thrombose des Sinus cavernosus. Heine (Berlin).
40 *Hepatoptose. N. Savelieff (Dorpat).
41 *Methods of Filling Cavities in Bones. G. Fantino and A. Valan (Bergamo).—Ueber einige Verfahren künstlicher Ausfüllung von Knochenlücken.
42 Changes in Cartilage in Case of Tuberculous Joint Affections. Schablowski (Königsberg).—Die Veränderungen des Knorpels bei tub. Gelenkerkrankungen.
43 *Zur Kasuistik und Statistik der Patellar-Frakturen. G. Müller (Berlin).
44 Der Mechanismus der Luxatio ossis lunati, nebst Bemerkungen über die Entstehung der Fraktur desselben Knochens. H. Gross (Jena).
45 *Cancer in Animals. L. Loeb (Buffalo).—Ueber den Krebs der Tiere.
46 *Experimental Studies of Anastomosis Formation of Vas Deferens After Resection of the Epididymis. W. Bogolyuboff.—Exp. Untersuchungen über die Anastomosenbildung an den ableitenden Samenwegen bei der Nebenhodenresektion.
47 Urinal. Dobrotvorski.—Ueber eine neue Modifikation des Harnrezipienten bei permanenten suprapubischen Blasenfisteln.

39. **Operative Treatment of Otitic Thrombosis** of the Transverse Sinus.—It is the rule at Lucae's clinic to open up the sinus at once in every case of high fever occurring in an adult in the course of suppuration of the middle ear when a suppurative meningitis can be excluded. If the sinus is full of blood or the diagnosis is dubious or a thrombus adherent to the wall may be assumed, treatment is expectant at first and the sinus not opened unless the symptoms continue a progressive course. If the thrombus obliterates the sinus, then it must be opened up and the suppurative thrombus removed. It is not necessary to remove with it the soft thrombi until the blood flows. The jugular is not ligated unless there is primary or secondary thrombosis of the medulla with pyemic general infection and the vein itself already affected. In case it is impossible to reach the central end of the decayed thrombus the results of the operation on the sinus are awaited and only in case the pyemic symptoms still persist is the jugular ligated. In every case the ligation of the jugular must be followed by free exposure and evacuation of the focus in the sinus and medulla. He describes a number of cases in detail.

40. **Wandering Liver.**—Savelieff's article is based on 2 cases personally observed and 116 collected in the literature, discussing the etiology, symptoms, diagnosis and treatment. His cases are illustrated.

41. **Filling for Cavities in Bones.**—Fantino and Valan insist that it is necessary to supply the bone salts needed for the regeneration of bone. They accomplish this by filling the cavity with scraps of calcined bones. New bone tissue forms in and through them, utilizing the salts in the bone scraps, and the cavity is completely filled in this way in three to eight months, as shown by radioscopy. In case the cavity is not unconditionally aseptic, they use a mixture of 3 parts pulverized calcined bone, 1 part thymol and 2 parts iodoform. This is pasty at 75 C. and sets at 60 C., forming a mass as hard as bone. In case of osteomyelitis or other suppurative lesion, they first sterilize the cavity by filling it with 10 per cent. iodoform glycerin, which they boil in the cavity by introducing the thermocautery into the fluid. After the sterility of the cavity has been ascertained by test cultures, the cavity is filled with the calcined bone as above. In case the soft parts are sound they can be sutured at once. They have applied this technic in 40 cases and the results were extremely satisfactory in 23 out of 30. The pulverized bone alone is absorbed too rapidly for successful regeneration of bone, but by mixing it in a cement as above described, the aim sought is fully realized as their three years of experience have established.

43. **Sutured Versus Non-Sutured Fractures of the** Patella.—Müller does not attempt to generalize from his material as it is so limited, merely 4 cases of fracture of the patella treated by suture and 11 cases treated by bandaging alone. The healing was complete in 93.1 days in the first and in 98.7 days in the second group, but the after-treatment required 153 days in the first and only 71 in the second, while the mobility of the joint was only 90 degrees at the close of the after-treatment in the first and 120 degrees in the second group. Working capacity was also impaired by 40 per cent. in the first and 24.6 per cent. in the second group.

45. **Cancer in Animals.**—Loeb mentions that he has frequently discovered carcinomata in the eyes of animals, and adds that they are comparatively frequent in cattle at the Chicago Stock Yards. At least one a week is found, and sometimes 2 or 3. During 1899 only 2 external carcinomata were noted elsewhere than the eyes, in the 50,000 cattle slaughtered. On a certain farm in Wyoming carcinoma in

the eyes of the cattle seems to be endemic. No cases occur in the neighborhood. He states that of the 61 cattle he has observed with carcinoma in the eyes, all but 2 were cows. In 1 there was a carcinoma in each eye, and in another one eye and the vulva were affected.

46. **Anastomosis After Resection of the Epididymis.**—Rasumowsky's method of implantation of the sound vas deferens after resection of the epididymis was tested on animals by Bogolyuboff. He found that the continuity of the efferent seminal passages became re-established in time. An intermediate space forms in which the vas deferens debouches from one side and the vasa of the epididymis from the other. The operation has been performed eleven times at Kazan, all on account of tuberculosis, and all on 7 patients. In 4 the epididymis was totally and in 7 partially resected. The clinical and experimental results are extremely encouraging.

Beitraege zur klin. Chirurgie (v. Bruns'), Tuebingen.

Last indexed page 814.

48 (XXXVIII, 1.) Pathologic Anatomy of the Appendix. O. Lanz (Amsterdam).—Die path.-anat. Grundlagen der Appendicitis.
49 Ueber Wachsthum und Architektur der unteren Femur-Epiphyse und oberen Tibia-Epiphyse. Beitrag zur Roentgen-Diagnostik. K. Ludloff (Königsberg).
50 Ueber tiefsitzende Lipome. K. Dertinger (Carlsruhe).
51 Tuberculosis in Form of Cystic Tumor Above the Mamma. G. W. Maly.—Eine seltene Lokalisation und Form der Tuberkulose.
52 Ueber Hydradenitis axillaris. L. Talke (Königsberg).
53 Resektion und Naht der Trachea bei tracheal und diaphragmatischer Larynxstenose. Kander (Carlsruhe).
54 (No. 2.) *Consequences of Ligating the Femoral Vein Below Poupart's Ligament. L. Halberstädter.—Folgen der Unterbindung der Vena femoralis unterhalb des Lig. Poupartii.
55 Experimentelle Beiträge zur Chirurgie der Harnblase (of bladder). J. Nagano (Breslau).
56 *Extensive Resections of Small Intestine. Ibid.—Zur Frage ausgedehnter Dünndarmresektionen.
57 Neogrowths Originating in Bursæ. C. Adrian (Strasburg).—Ueber die von Schleimbeuteln ausgehenden Neubildungen.
58 Operative Treatment of Carcinoma of Large Intestine. H. Schloffer (Prague).—Zur op. Behandlung des Dickdarmcarzinoms. 3 zeitige Radikal-Operation. (Commenced in No. 1.)
59 Ueber Mycosis fungoides. H. Gebele (Munich).
60 *Esophagoskopie und Esophagotomie bei Fremdkörper in der Speiseröhre. J. Kaloyeropulos.
61 In-suture of Gangrenous Folds in Intestines. Crampe.—Uebernähung gangrän-verdächtiger und gangränöser Schnurfurchen im Darm.
62 Results of Operative Treatment of Cancer of Stomach. Ringel (Hamburg).—Resultate der op. Behandlung des Magencarcinoms.

54. **Consequences of Ligating Femoral Vein.**—Halberstäder relates a case from his own experience at Königsberg to show that this procedure is by no means always free from danger. His patient was a man of 52; a piece of the femoral vein 5 cm. long was resected below Poupart's ligament in removing a tumor. Notwithstanding every known precaution, gangrene followed, but still he thinks that a favorable result is possible when collateral routes exist in sufficient numbers and the femoral artery is intact.

56. **Extensive Resections of Small Intestine.**—Nagano cites 12 cases in which more than 200 cm. of the ileum was resected. Six of the patients are entirely restored to health.

60. **Foreign Bodies in Esophagus.**—The statistics of 215 operations for this cause are tabulated with various details. Artificial teeth form 40.7 per cent. of the total, and pieces of bone 7 per cent. The mortality from the latter is the largest, being 15.38 per cent.

Berliner Klin. Wochenschrift.

63 (No. 30.) Zur Frage über die experimentelle Albumosurie. M. Halpern.
64 *Simple Method of Distinguishing Between Organic and Psychic Sensory and Motor Disturbances in the Fingers. E. Müller.—Zur Unterscheidung zwischen organisch und psychisch bedingten Sensibilitäts- und Motilitätsstörungen an den Fingern.
65 Experimentelle Studien zur Pathogenese akuter Psychosen. H. Berger.
66 *Ueber Embryomata und andere Geschwulste (tumors). J. Beard.
67 (No. 31.) *Erythema exsudativum multiforme, Chorea, Rheumatismus nodosus, Endopericarditis. M. Hohlfeld.
69 Ueber bovine Impf-Tuberkulose. O. Lassar.
70 Ueber den Werth der Agglutination für die Diagnose des Abdominal-Typhus. R. Stern. (Commenced in No. 30.)
71 (No. 32.) *Treatment of Bullet Wounds of Lungs. König.—Aphoristische Bemerkungen zum Verlauf und Behandlung der Friedensschussverletzungen der Lunge.
72 *Transverse Spinal Paralysis from Malignant Neoplasm. Nonne.—Ueber akute Querlähmungen bei maligner Neubildung der Wirbelsäule.
73 *Zur Lehre von den neutrophilen Granulationen des Blutes. M. Mosse.
74 *Ueber Organ-Therapie beim endemischen Cretinismus. M. Levy.
75 Mosquitoes and Yellow Fever. W. Havelberg.—Ueber die Beziehungen der Moskiten zum gelben Fieber.
76 *Self-protection in Roentgen Work.—C. Beck (New York).—Zum Selbstschutz bei der Roentgenuntersuchung.
77 *Application of Osmic Acid in Clinical Microscopy. C. Posner.—Zur Anwendung der Osmiumsäure in der klinischen Mikroskopie.
78 (No. 33.) *Zur Narkose beim Ileus. W. Kausch (Breslau).
79 *Fall von Henoch'scher Purpura. C. Rommel (Munich).
80 Ueber Strumitis post-typhosa und den Nachweis der Typhus-Bazillen im Struma-Eiter. K. A. Krause and C. Hartog (Cologne).
81 *Die epiduralen Injektionen durch Punction des Sacral-Canals. A. Strauss (Barmen).
82 (No. 34.) *Omentum as a Protecting Organ. E. de Renzi and G. Boeri.—Ueber die schützende Thätigkeit des Netzes.
83 *Study of Action of Credé's Collargol. J. Bamberger.—Betrachtungen und Untersuchungen über die Wirkungsweise des "Collargol Credé."
84 Action of Killed Tubercle Bacilli and Toxins. F. Klingmüller (Breslau).—Zur Wirkung abgetöteter Tub.-Bac. und der Toxine von Tub.-Bac.
85 Location of Foreign Bodies with X-Rays. Levy-Dorn and M. Jacobsohn (Berlin).—Zur Untersuchung auf Fremdkörper mit Roentgen-Strahlen.

64. **Method of Differentiating Organic Sensory and Motor Disturbances in Fingers.**—The method is based on the illusion experienced by contact of the crossed fingers, the sensation of contact being attributed to the wrong finger or part of the finger. This illusion occurs constantly in persons with psychogenic anesthesia of the parts, while in subjects with true organic anesthesia there is none of this illusion. Müller has devised a means of applying this test in the clinic and illustrates its various applications. The hands are clasped together, with the interlacing fingers turned outward, in front of the neck. The subject is thus unable to see his fingers and the illusion is very pronounced.

66. **Embryomata and Other Tumors.**—Beard's idea is that all tumors are of embryonal origin, due to displacement of primary germinal tissue cells. Any part whatever of the life cycle of normal development may manifest itself as a tumor. Carcinoma is the sole exception, and this, he states, bears the stamp of the pre-embryonic life cycle.

67. **Relations Between Chorea, Rheumatism, Etc.**—Hohlfeld suggests that the four affections enumerated in his title may possibly have a single origin, and that their frequent combination is not a mere coincidence. He calls special attention to the occurrence of various members of the group in different members of the same family.

69. **Inoculation of Man with Bovine Tuberculosis.**—Lassar describes several cases from his own experience in which butchers or persons who had much to do with diseased cattle acquired superficial lesions which seemed to be undoubted cases of inoculation of bovine tuberculosis. He gives cuts of some of the subjects and microscopic findings.

71. **Firearm Wounds of Lungs.**—König advocates expectant treatment of a bullet wound of the lung even with considerable extravasation. Thoracotomy may be necessary if after two or three days the hemothorax still induces fever and dyspnea. It is likewise indicated at this date or later if the hemothorax persists, even in the absence of urgent symptoms. If absorption proceeds very slowly, puncture may be advisable.

72. **Transverse Spinal Paralysis from Neoplasm.**—Nonne's case was distinguished by the fact that the paralysis was not due to compression by the malignant neoplasm but merely to simple degeneration of the cord under the influence of the toxins generated by the primary tumor in the prostate and the metastases affecting all the vertebræ.

73. **Neutrophile Granulations of Blood.**—Mosse believes that he has established that the myelocytes are the essential neutrophile elements, and that we must accept a basophilia of greater and lesser degree.

74. **Thyroid Treatment of Cretinismus.**—M. Levy found that thyroid treatment proved very beneficial in 7 cases of endemic cretinism, the same as in the sporadic form. In this his experience differs from that of Schulz at Graz, who was unable to detect any improvement in 100 cases of the endemic variety treated with thyroid extract. Possibly the endemic cretinism in Alsace, where Levy's tests were made, is not so deep-rooted as at Graz.

76. **Self-Protection in Roentgen Work.**—Beck suggests that the tubes should be tested on the bones of a hand or arm fastened on pasteboard, instead of testing them on the operator's own hand or arm as is too often done.

77. **Osmic Acid in Clinical Microscopy.**—Posner states that he has found the fumes of osmic acid very useful for fixation of fresh specimens of blood or other organic fluids. It "suffocates" the cell and preserves it in its natural outline better than any other substance. He keeps a few crystals of osmic acid in a jar with a close cover. The object glass to be examined is laid over the top of the jar with the cover above it, and the fixation is complete in 40 seconds.

78. **Narcosis in Ileus.**—Kausch prefers general narcosis for operating in ileus except when the operation is so trifling that local anesthesia will prove sufficient. In order to obviate the danger of aspiration of vomited matters during the narcosis he plugs the opening of the stomach into the esophagus. This is done by means of a rubber bag on the end of a fine tube tied to the sound. The bag is introduced into the stomach with the sound, which projects a little below the bag. The latter is then inflated through the narrow tube, thus completely closing the entrance into the esophagus. The contents of the stomach and intestines can find their way out through the sound if necessary, as he operates with the pelvis raised.

79. **Henoch's Purpura.**—Rommel describes a typical case observed in a boy 3 years old. Bacteriologic examinations were negative and nothing abnormal could be discovered in the heart. No treatment displayed any efficacy except possibly the opiates. The affection showed a pronounced tendency to recurrence.

81. **Epidural Injections in Treatment of Incontinence, Etc.**—THE JOURNAL described Cathelin's method of epidural injections, vol. xxxvii, pages 150 and 793, and vol. xxviii, page 1282, and has recently chronicled a number of successes with it in the treatment of urinary incontinence, etc., page 527, ¶117, and page 757, ¶124. The needle is inserted at a point just above a line drawn across the bases of the bony pro-

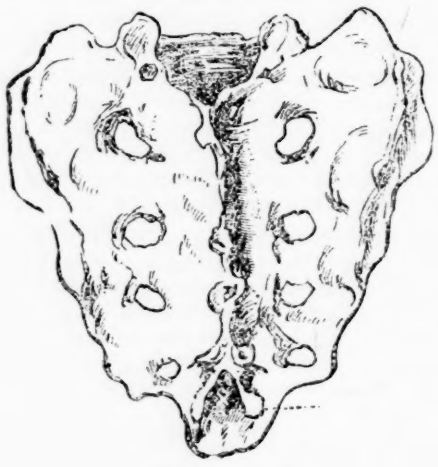

Figure 1.

tuberances that form the triangle visible or palpable at the lower segment of the sacrum, x in Fig. 1. The needle is inserted as shown at A in Fig. 2 until it nearly touches the bone, then the handle is depressed until the needle parallels the bone, when it can be freely inserted quite a distance without coming in contact with bone or other tissues. The best position is the erect, but it may be necessary to have the subject recline on the left side and flex the limbs to bring the bony triangle into prominence. It is never exactly in the

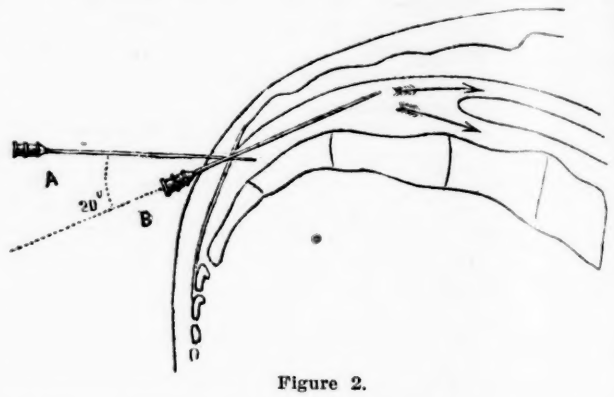

Figure 2.

anal furrow but a little above it as the subject reclines on the left side. For further particulars see references above.

82. **The Omentum as a Protecting Organ.**—The researches on dogs reported establish that the omentum has more functions than hitherto appreciated. If, for example, the circulation of the spleen is entirely cut off, the omentum gradually envelopes and forms a capsule around the spleen inside which it is in time completely absorbed. If the omentum is removed after the circulation in the spleen is cut off, the organ does not become encapsulated and the animal speedily dies. When toxins are generated by gangrenous degeneration of the spleen or other organ the omentum seems to possess the power of neutralizing these toxins. Foreign bodies introduced into the abdominal cavity were likewise encapsulated by the omentum.

83. **Studies of Action of Collargol.**—Bamberger describes experimental researches and tests on his own person which show that the silver salts do not remain dissolved in the serum, and that they have no particular bactericidal action. Their unquestionable beneficial action is due, he thinks, to the mobilization of the leucocytes which they induce.

Centralblatt f. Bakteriologie, Etc., Jena.

Last indexed page 754.

86 (No. 10.) Ueber die Gruppe des Bacillus proteus vulgaris. B. Weber.
87 Immunity to Anthrax. O. Bail and A. Pettersson (Prague).—Ueber nat. und künstliche Milzbrandimmunität.
88 Ueber die verschiedenen Agglutininen des Typhus-Serums. A. Joos (Brussels).
89 Mode of Action of Anti-trypsin of Blood Serum. M. Ascoli and C. Bezzola.—Ueber die Wirkungsweise des Antitrypsins des Blutserums.
90 Bactericidal Action of Disinfectants in Alkaline Solutions. Engels (Marburg).—Ueber die bakt. Wirkung in Alkali gelösten Desinficienten auf Bakterien-Kulturen.
91 Das Aetz-Sublimat und das Formaldehyd in der Desinfektions-Praxis. F. Abba and A. Rondelli (Turin).

Deutsche Med. Wochenschrift, Berlin and Leipsic.

92 (XXIX, No. 36.) *The Housing Question and the State. F. Hueppe.—Staatliche Wohnungsfürsorge.
93 Elaboration of Specific Antibodies After Cutaneous Infection. F. Kasten (Institute of Infectious Diseases, Berlin).—Ueber die Bildung von spec. Antikörpern nach kutaner Infektion.
94 *Ueber chronische Gonorrhoe und Gonococcen-Nachweis. F. Meyer.
95 (No. 37.) *Ueber Immunisirung gegen Tuberkulose. F. Neufeld (Institute for Infectious Diseases, Berlin).
96 *Traumatic Late Apoplexy. H. Kron (Berlin).—Zur Frage der traum. Spätapoplexie.
97 *Ueber wandernde Phlebitis. E. Neisser (Stettin).
98 *Dependence of Cyclic Albuminuria on the Circulation. P. Moritz (Greifswald).
99 Paraffin Prothesis. A. E. Stein (Wiesbaden).—Ueber die Verwendung von hartem oder weichem Paraffin zu subkutanen Injektionen.
100 Report of Committee on Foot-and-mouth Disease, 1901-2. Loeffler (Greifswald).

92. **The Housing Problem.**—Hueppe discusses the recent regulations on this subject in Prussia, and recommends among other things that a building line should be established in residence districts a certain distance back from the street, back of which nothing in the way of buildings should be allowed,

with fences not over six feet in height between the different yards. This would give an open square in the center of the block, even if the street front were built up solid, and he remarks that the air in such a square is surprisingly good, sheltered from the dust of the surrounding streets. He states that up to the end of the seventeenth century the arrangement and building of German cities were considered matters of public concern and accommodations were provided ample for all, with rents low. In the unprecedented flocking of the people from the country to the city in the last century the provisions for housing the multitudes proved inadequate. He insists that small houses are cheaper to build and maintain and more remunerative for a district in the end than many-storied tenement houses, especially if, as the new Prussian law contemplates, the special assessments, water tax, etc., are reduced 25 per cent., when it is shown that the houses are occupied by the poorer classes.

94. **Chronic Gonorrhea and Its Treatment.**—Meyer has followed 90 cases of chronic catarrhal urethritis for months or years, controlling the microscopic findings with cultures and clinical observation. He advocates making cultures from the secretions as a routine procedure of the greatest importance for treatment and indispensable to a proper understanding of the case. By repeated inoculation of the secretions on suitable culture media he succeeded in demonstrating gonococci in 50 per cent. of the total 90 cases. In 58 cases the microscope and the cultures gave identical results, while in 29 cultures developed when the microscope findings were negative. The microscope sometimes revealed the cocci after a preceding irritation of the mucosa, but the cultures revealed them without the necessity for this irritation. The culture medium found best adapted for the purpose was Kiefer's mixture of 3.5 per cent. agar, 5 per cent. peptone, 2 per cent. glycerin, and .5 per cent. salt, adding one-third by volume of sterile ascitic fluid.

95. **Successful Immunization of Cattle Against Tuberculosis.**—Neufeld presents the official report of the researches which Robert Koch has been conducting during the last two years, and which have established the possibility and feasibility of rendering cattle absolutely immune to tuberculosis. They also confirm his assertions in regard to the non-identity of human and bovine tuberculosis. His conviction that the agglutinating power and the degree of immunity are intimately connected has also been confirmed as the method of treatment which induced the highest agglutinating power ensured the highest degree of immunization. The non-identity of human and bovine tuberculosis was the key that solved the problem of immunization, as he found it possible by preliminary treatment with one kind of virus to immunize the animal against the other kind. Neufeld mentions that this possibility has been suggested by Macfadyan, von Behring, Pearson, Leonard and Gilliland, but Koch's researches had been long under way before their publications and his technic is different. He delayed publishing his report for the reason among others that he was hoping to be able to immunize other animals, such as the guinea-pig, which is very susceptible to both bovine and human tuberculosis. This wish has not been realized to date. The general plan of the immunization was to commence with injections of dead tubercle bacilli and then continue with increasing doses of living cultures, first of human tuberculosis and then of bovine tuberculosis—*Perlsucht*, reaching as large doses of each as possible. This general plan was varied in a number of ways, as, for instance, some of the animals were treated with the living bacilli from the first, and it was possible to confer immunity by this means likewise. In all the animals, however, asses, goats and cattle, it was soon found that a limit was speedily reached beyond which it was impossible to go. This limit is not established by the action of the infection, but by the action of the toxins of the cultures. In this respect human and bovine tuberculosis proved to be about on a level, or rather the toxic action of *Perlsucht* is unmistakably stronger than that of the human cultures. It was impossible to determine the minimal fatal dose, as the susceptibility to the toxin varied in different animals, and even in the same animal at different times. In asses it ranged from 50 to 100 mg. of human tubercle bacilli, while goats tolerated only 30 mg. of human and 20 mg. of bovine tubercle bacilli, and even 10 mg. sometimes proved fatal. This toxic action of the cultures established a limit to the process of immunization beyond which it was impossible to bring the animals, even after being long accustomed to the injections. This is similar to what is observed in typhoid and cholera, but the conditions are much more complicated in tuberculosis. In the former the toxic phenomena can be induced with killed bacteria if large enough doses are given, but this is not the case with tuberculosis. Even the intravenous injection of up to 300 mg. of the killed cultures caused slight reaction in goats. This is the more remarkable, as killed tubercle bacilli have the same power as living cultures to induce local toxic action; that is, the formation of nodules. Another remarkable feature of the toxic action in tuberculosis is the fact that it occurred exclusively in those animals that had previously been treated with tuberculosis cultures. The acute intoxication never developed in animals that had not had the preliminary treatment, even after much larger doses, as much as 100 mg. in goats. On the other hand, a peculiar chronic intoxication developed after very large doses. The acute intoxication proved fatal in less than twenty-four hours, and the findings correspond to those observed in tuberculin intoxication of tuberculous animals. He protests against the assumption from these facts that in both cases the toxin is the same, for otherwise it would have proved possible to protect the animals against the intoxication described by interposing treatment with progressive doses of tuberculin. This, however, was never accomplished, and the hope that tuberculin administered after a large dose of living cultures might avert the impending intoxication was never realized. This acute intoxication occurred approximately the same in asses, goats and cattle and proved an obstacle to the animals becoming accustomed to the injections. Another circumstance which rendered the immunization difficult was observed in the goats alone, namely, the injurious effect of too large or too frequently repeated doses of human tubercle bacilli. When too large doses were injected (30 to 60 mg. in fractional doses) little if any immunity was acquired, while with smaller doses the animals were rapidly rendered immune. The injections were always intravenous and the cultures were two to four weeks old, grown on glycerin bouillon or the Beck-Proskauer culture medium, dried with blotting paper, weighed and ground in a mortar with physiologic salt solution. The fluid was thoroughly shaken up and about 5 to 10 c.c. injected at a time. If the bacilli enter the circulation in lumps they are liable to induce the formation of a cavity in the lungs, even in an immunized animal. When the immunization had resulted positively and sufficient time had elapsed, small, smooth-walled, perfectly healed cavities were found in the lungs, entirely free from tubercle bacilli. If the animal dies or is killed a few weeks after the last immunizing injection, then, as is to be anticipated, more or less numerous indurated grey nodules undergoing retrogression will be found in the lungs. The desiccated bacilli were ground and injected in suspension in saline or centrifugalized or in glycerin after sedimentation. The cultures of *Perlsucht* bacilli were always extremely virulent. Goat No. 26, for example, was injected with .025 gm. ground (killed) tubercle bacilli, with eight days later an injection of .0025 gm. human tubercle bacilli, and eleven days after this an injection of .01 gm. *Perlsucht* bacilli. The animal died with symptoms of acute intoxication immediately after injection of .02 gm. *Perlsucht* bacilli seven weeks later, and in the lungs were found a number of minute, hard and evidently retrogressing nodules. As a typical example of the immunity conferred we quote the record of ass No. 8: April 8, 1902, 1 gm. ground (killed) tubercle bacilli in saline solution; April 26, .02 gm. culture human tubercle bacilli; May 10, .05 gm. ibid; June 18, .01 gm. *Perlsucht* culture, and September 18, .02 gm. ibid. The animal is living and apparently healthy, and has been repeatedly tested with doses of virulent bovine tuberculosis cultures, rapidly fatal for the controls. None of the immunized animals

has shown signs of infection during the year and more that have elapsed since the immunization, and those that have been slaughtered have shown no signs of progressing tuberculosis. In conclusion, Neufeld points out that the results of this research do not conflict with the excellent effects of Koch's method of "immunizing treatment" of tuberculous human beings with preparations of killed, ground tubercle bacilli which are readily assimilated by the organism. In the first place, the immunization of animals is obtained by means of a brief preliminary treatment which enables them to withstand the following doses of otherwise fatal cultures, while in man it is a question of gradually arresting a chronic process by treatment continued through months and years. We know also that the reactions induced in tuberculous subjects by injection of tuberculosis toxins are entirely different from those induced in the healthy.

96. **Traumatic Tardy Apoplexy.**—Kron analyzes the cases that have been published, and remarks that only 4 out of the total 10 are above the suspicion of a predisposition. In expert testimony in damage suits the physician should refer to the uncertainty at present prevailing in regard to the subject. He notes one case in which symptoms occurring not long after a trauma indicated tardy hemorrhage with perforation into the ventricle in a previously robust man. The necropsy revealed, however, a tumor in a parietal lobe.

97. **Migrating Phlebitis.**—Neisser gives a careful study of a case which justifies the descriptive title of syphilitic migrating phlebitis of the superficial veins of the limbs.

98. **Relation of Cyclic Albuminuria to the Circulation.**—Edel presents arguments in favor of the assumption that cyclic albuminuria is due to a certain insufficiency of the circulatory apparatus. He noticed that the increase in the blood pressure which normally occurs after moderate exercise was followed by abnormally low pressure in those subjects inclined to cyclic albuminuria. The subjective sensation of fatigue paralleled the recurring albuminuria. In one of the numerous tests he describes he had 2 of these patients lie down and artificially induce disturbances in the respiration by straining as at stool for ten to fifteen minutes. This was invariably followed by albuminuria, although the urine had been free from albumin before, and nothing of the kind was observed in the normal controls. The conclusions of his research are that cyclic albuminuria should be treated by measures to tone up and strengthen the heart muscle and its nerves—not by rest, as hitherto advocated. He even goes so far as to proclaim that the prospects of treating chronic nephritis in the same way by appropriate "gymnastic therapy" are more and more encouraging. He has been successful in curing many cases of cyclic albuminuria along these lines and has achieved equally good results in chronic nephritis. He emphasizes the point that the albuminuria does not recur during the increased blood pressure and respiration that accompany physical exercise, but only in the phase of depressed pressure which follows. The efficacy of diuretics in such cases is due to the improved circulation through the kidneys which they produce. He cites Schaps to the effect that among 35 patients with cyclic albuminuria observed at Breslau, 20 had more or less pronounced heart affections. He compares the condition in cyclic albuminuria to that of a convalescent from an infectious disease, only that it is permanent. The subject is a chronic convalescent.

Monatshefte f. Prakt. Dermatologie, Hamburg.

Last indexed XL, page 1332.

101 (XXXVI, No. 7.) A New Nail Parasite. Dreuw (Unna's clinic, Hamburg).—Ein neuer Nagelparasit.
102 *Ueber Gonokokken-Färbung (staining). A. Pappenheim.
103 Treatment of Cutaneous Cancer by the Czerny-Trunecek Method. C. Beck (Budapest).—Zur Behandlung der Hautkrebse nach der Methode von C.-T.
104 (No. 8.) Fall von Neurofibroma cutis multiplex. F. v. Krzysztalowicz (Cracow).
105 Ueber syphilitische Haus-Epidemien. A. Jordan (Moscow).
106 (No. 9.) *Inherited Immunity to Syphilis. M. Tschlenow (Moscow).—Zur vererbten Immunität gegen Syphilis und über das sogen. Gesetz von Profeta.
107 *Zur Behandlung der Psoriasis. Dreuw.
108 (No. 10.) Histologische Untersuchungen über die Wirkung des Chrysarobins bei der Alopecia areata. M. Hodara (Constantinople).
109 *Neue Methode der Abortiv-Behandlung der Gonorrhoe. C. Engelbreth (Copenhagen).
110 (No. 11.) Circumscribed, Hitherto Unknown Degeneration of Skin. Dreuw.—Ueber eine umschriebene, bisher unbekannte Degeneration der Cutis. Zugleich ein Beispiel von Simulation einer Hautkrankheit.
111 Ein neuer Coccus, unter eigenartigen Umständen auf der Haut angetroffen. C. Cronquist (Norrköping).
112 (No. 12.) Granuloma herpetiforme "exoticum." Boselini (Bologna).
113 Zur Prophylaxe der Enteritis mercurialis. L. Gorl (Nuremberg).
114 (XXXVII, No. 1.) *Technik der Urethral-Injektionen. Capacität der Urethra ant. und Spannungsdruck des Sphinkter, berücksichtigt in der Construction einer neuen Gonorrhoe-Spritze (syringe). C. Engelbreth (Copenhagen).
115 Die hyaline Degeneration im Haut-Carcinom. A. Marullo (Naples).
116 *One Cause of Iodoform Eruption. C. Audry (Toulouse).—Ueber eine Ursache des sogen. Iodoform-Ausschlages.
117 (No. 2.) Improvement of Zinc Glyco-gelatin by Dusting with Powder. C. Cohn.—Zur Verbesserung der Zinkleimdecke durch Bepudern.
118 (No. 3.) Ueber Urticaria pigmentosa perstans. Reiss (Cracow).
119 Zur Kenntnis der Cavernitis gonorrhoica. S. Grosz (Vienna).
120 Behandlung der Trichophytiasis capitis mit Chrysarobin. M. Hodara.
121 (No. 4.) Zur Kenntnis der Parapsoriasis (Brocq). A. Bucek (Essek).
122 Intoxication mit Alpha Eucain. Neuhaus.
123 Ueber Spermatocystitis. Ibid.
124 (No. 5.) *Zur Behandlung des Lupus. Dreuw.
125 Syphilis-Bacillus von Max Joseph. E. Delbanco.

102. **Staining the Gonococcus.**—Pappenheim gives a historical sketch of the various stains proposed for the gonococcus, pointing out their advantages and drawbacks. His own stain is a concentrated 5 per cent. carbolated water solution of 2 parts methyl green and 1 to 3 parts pyronin. The stain is left in contact for three to five minutes. The nuclei are a bluish green to lilac and the cocci dark red. This brings out the gonococci even when they are very scantily present. When more details are desired his universal stain is a combination of this with the Neisser and Steinscheider technics: 1, carbol-gentian; 2, Lugol's solution for three minutes; 3, Nicolle's alcohol plus 1/5 acetone, not less than half a minute and not more than two or three minutes; 4, orange G; 5, blotting paper; 6, the carbol-methyl green and pyronin solution; 7, rinsing; 8, drying and mounting. This shows up the cell nuclei green, the oxyphile plasm of the neutrophile leucocytes yellow as also the eosinophile granulations; the mast-cell granules purple or scarlet; the bodies of the epithelial cells pink and of the lymphocytes purplish red, while the gonococci are red and the iodin-proof bacteria are dark blue.

106. **Inherited Immunity to Syphilis.**—Tschlenow discusses the various contradictory communications that have been published in regard to Profeta's law. He describes 2 cases personally observed in which the children of syphilitic mothers had unquestionably acquired syphilis after birth. In one case the mother was in the tertiary stage, and in the other had had syphilis and been well treated several years before. In the first case the child became infected five years after its birth, and in the latter case between the second and third month. He admits the existence of inherited immunity, but regards it as likely to be transient, and believes that it does not last long after birth, and that such children are as liable then to acquire syphilis as others.

107. **Treatment of Psoriasis.**—Dreuw has derived great benefit from the salve he describes, especially in case of isolated, much indurated foci of psoriasis and in the persisting relics of old psoriasis. He has thus treated a large number of patients at Unna's clinic and also in the latter's private practice. The formula is 10 parts salicylic acid to dissolve the horny substance, 20 parts of chrysarobin and also of Ol. rusci nov., and 25 parts each of green soap and vaselin. This salve is applied with a brush to the foci for three or four days.

109. **Abortive Treatment of Gonorrhea.**—Engelbreth's method is applicable only to purely epithelial gonorrhea. This can be differentiated by the absence of inflammation at the orificium during the first to the third day of the gonorrhea. His method aims to remove the epithelium as in curetting the uterus. He accomplishes this by systematic destruction of the layers of the epithelium by means of strong solutions of silver nitrate (.2 to .3 per cent.), with which he irrigates the anterior portion of the urethra and which cures the gonorrhea in two days

in nine out of every ten cases. In his experience the cases with a longer period of incubation ran a milder course than the others, either from lesser virulence on the part of the germs or greater resisting power of the tissues.

114. **Improved Syringe for Treatment of Gonorrhea.**—The same writer describes and illustrates a syringe which consists of a rubber bulb, a connecting tube with valve, and the glass syringe proper. He claims that it acts with such delicacy and precision that there is no fear of its getting out of order, but its principal advantage is that the amount injected always corresponds to the varying capacity of the anterior portion without forcing the sphincter. It thus allows thorough and exclusive treatment of the anterior portion. He reviews the history of syringe treatment from the days of ancient Egypt, and enumerates the conditions for success. The capacity of the syringe must be at least 21.5 c.c., as the capacity of the anterior portion ranges from 4 to 21.5 c.c. For injections into the posterior portion the capacity should be 25 c.c. The pressure of the injection should not be above 1/10 of an atmosphere, as the elastic pressure of the sphincter is only 1/9 to 1/7. The injections should be made slowly, bearing in mind this elastic action of the sphincter. They should be brief and often repeated, as the sphincter becomes fatigued easily. Protracted injections for this reason should be made under low pressure, and the urethra only half filled. In injecting the posterior portion the bladder should be emptied and the patient should urinate during the injection, as this reduces the pressure to its lowest point, 1/20 atm.

116. **One Cause of Iodoform Eruptions.**—Audry states that he has ceased to have any iodoform eruptions in his practice since he has refrained from using iodoform on a patient who is taking mercury in any form. He thinks the eruption is in fact a "hydrargyride" induced by the iodoform.

124. **New Method of Treating Lupus.**—Dreuw has been applying for four months at Unna's clinic a combined method of treating lupus, which has had unexpectedly fine and rapid results in the 9 cases in which it has been used. Some of the patients had been under treatment for twenty to twenty-two years, and all were delighted at the cosmetic results obtained by the new method. Time alone will reveal whether the cure is permanent, but the prospect is encouraging, as even with the diascope no nodules can be detected. Tuberculous ulcers and granulations healed under this treatment remarkably well and promptly. One of his patients had tuberculous ulcerations on nose, cheeks and at the corners of the mouth. All the lesions have healed over during the five weeks of treatment and the interference with eating vanished after the first sitting. One patient had suffered for twenty years with an exfoliating lupus covering face and lids. The entire surface has healed over with a smooth and shiny surface. He adds that no time nor expense is required for this method of treatment which is within the reach of every practitioner and patient. The procedures are not painful and no symptoms of intoxication have been observed in any instance. The method is a combination of refrigeration with ethyl chlorid and the application of crude hydrochloric acid to the nodules, rubbing it in until it smarts. A region about the size of a dollar is sprayed with the chlorid until covered thick with ice. A cotton-wound stick is then dipped in the acid and it is rubbed into the lupous patch as hard as the patient can bear except in case of exfoliating lupus or tuberculous lesions, in which the pressure need not be so energetic. The acid is rubbed in until the epidermis at the spot forms a grayish soft mass. This is cast off in the course of a few days without leaving any deep lesion. The cauterization is never deep. After this destruction of lupous tissue the epidermis is regenerated from below. In one of his cases a recurring lupous patch on the cheek was cauterized away in a single sitting. Four weeks later the entire granulating surface was covered with apparently healthy epidermis. If the acid becomes diluted with the melting ice it loses its efficacy and a fresh cotton-tipped stick should be taken. The acid is not painful when applied only to the frozen surface, and any tendency to painfulness is combated by renewed application of the ethyl chlorid. It is possible to go over large surfaces in this way at a single sitting. The cauterizing action of the acid does not extend beyond the spot treated. He found it an advantage in some cases, when the nodules had disappeared to the eye, but could still be seen by the diascope, to paint them with ink. This showed through the layer of ice and he could thus apply the acid exactly where needed. Bleeding is soon arrested by the cauterization. He believes it might be advisable in case of very extensive lupus to administer chloroform and go over the entire surface at a single sitting.

Gazzetta degli Ospedali, Milan.

Last indexed page 817.

126 (No. 74.) Cirrosi portale atrofica asplenomegalica come malattia prevalentemente congenita. A. Ferrannini.
127 Sulla tubercolosi sperimentale del cane e sulla tossiemia che ne consegue. Casavecchia.
128 Le iniezioni endovenose di sublimato nella cura della sifilide. Gravagna.
129 (No. 77.) Acute Infectious Liver. A. Nizzoli.—Il fegato infettivo acuto in una forma morbosa non ancora cognita.
130 Antitossine ed agglutinine nel sangue di animali immunizzati. F. Figari.
131 Il nucleone nello sperma. E. Cavazzani.
132 Sulla cura delle infezione puerperali. G. Monzardo.
133 La sciatica curata colle iniezioni locali di antipirina. P. Adolfo.
134 Medicatura cacodilica. B. Domenico.
135 (No. 80.) Dell' azione del nucleoproteide di sangue eterogeneo sul numero e la proporzione dei globuli. G. Guerrini.
136 Sputa as Culture Medium. G. Guyot.—Léspettorato come mezzo di coltura pel bacillo della tubercolosi.
137 Study of Portal Circulation. E. Alevoli.—Derivazione chirurgica del sangue dal circolo portale.
138 (No. 83.) Contributo alla patogenesi della bronchopneumonite consecutiva alla operazione del gozzo (on the throat). F. Carini.
139 Incontinenza notturna d'orina e vegetazioni adenoidi. U. Melzi.
140 Tetano ed acido fenico. G. G. Deplano.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Text-Book of Histology. Including the Microscopic Technic. By Dr. Philipp Stöhr, Professor of Anatomy at the University of Würzburg. Fifth American from the Tenth German Edition. Translated by Dr. Emma L. Bilstein, Formerly Director of the Laboratories of Histology and Embryology, Woman's Medical College of Pennsylvania. Edited, with Additions, by Dr. Alfred Schaper, Professor of Anatomy, University of Breslau. With 353 Illustrations. Cloth. Pp. 485. Price. $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

A Handbook of Obstetric Nursing. For Nurses, Students and Mothers. Comprising the Course of Instruction in Obstetric Nursing Given to the Pupils of the Training School for Nurses Connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M.D., Formerly Obstetrician, Gynecologist and Surgeon to the Woman's Hospital of Philadelphia. Sixth Revised Edition. Illustrated. Cloth. Pp. 270. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

Scheme for the Differential Testing of Nerves and Muscles. For Use in Diagnosis. By J. Montgomery Mosher, A.M., M.D., Clinical Professor of Insanity, Neurology and Electro-therapeutics, Albany Medical College. Illustrated. Cloth. Pp. 58. Price, $1.00 net. Albany, N. Y.: Brandow Printing Company. 1903.

Yearbook of the United States Department of Agriculture. 1902. Cloth. Pp. 912. Washington: Government Printing Office. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, Sept. 12, 1903:

Brown, Orville G., first lieut. and asst.-surgeon, will proceed to Washington Barracks and report, not later than September 12, for temporary duty thereat during the absence of Major Henry P. Birmingham, surgeon, and, on the return of Major Birmingham, surgeon, will rejoin his proper station.

Foster, Charles L., first lieut. and asst.-surgeon, will proceed to Fort Washington for temporary duty during the absence of First Lieut. Charles R. Reynolds, asst.-surgeon, and, on the return to duty of the latter officer, will rejoin his proper station.

Geer, Charles C., first lieut. and asst.-surgeon, is granted an extension of leave for one month on account of sickness.

Jones, John F., contract surgeon, is granted an extension of leave for one month.

Koyle, Fred T., contract surgeon, is relieved from further duty in the Division of the Philippines, and will, on the expiration of his present leave, proceed to Fort Clark for duty.

Page, Henry, captain and asst.-surgeon, is relieved from duty at Fort Mason and will report to the commanding general, Department of California, for transportation to the Philippine Islands on the transport to sail from San Francisco on October 1, and will report to the commanding general, Division of the Philippines, for assignment to duty.

Peed, George P., first lieut. and asst.-surgeon, is relieved from further duty at the U. S. General Hospital, Washington Barracks, and will proceed to Fort Bayard for duty.

Reynolds, Frederick P., captain and asst.-surgeon, is granted leave of absence for ten days from about September 10.

Reynolds, Charles R., first lieut. and asst.-surgeon, will, on the arrival of First Lieut. Charles L. Foster, asst.-surgeon, proceed to Washington Barracks and report at the General Hospital for duty with Company of Instruction No. 1, Hospital Corps, during the Army maneuvers to be held at West Point, Ky., and Fort Riley, Kas., and, on the return of the Company of Instruction to Washington Barracks, will rejoin his proper station.

Truby, Albert E., captain and asst.-surgeon, is relieved from further duty at West Point, N. Y., and will proceed to Alcatraz Island, Cal., for duty.

Tetamore, Frank L. R., contract surgeon, having completed the duty for which he was ordered to Fort Grant, will, on the expiration of his present leave, proceed to San Francisco and report for duty with the Seventh Infantry, en route to the Philippine Islands and, on arrival at Manila, will report for assignment to duty.

Williamson, Llewellyn P., first lieut. and asst.-surgeon, is relieved from further duty at the U. S. General Hospital, Presidio, Cal., and will proceed to Jefferson Barracks for duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Sept. 19, 1903:

Asst.-Surgeon J. P. Trainor, from the *Solace* to the Naval Station, Pollock, P. I.

Medical Director Paul Fitzsimmons, from Naval Hospital, Newport, R. I., home, and wait orders.

Medical Inspector H. Wells, from Navy Yard, Boston, to Naval Hospital, Newport, R. I.

Medical Inspector E. Z. Derr, to Navy Yard, Boston.

Medical Inspector D. N. Bertolette, from Naval Medical Examining Board to Naval Dispensary, Washington, D. C.

Surgeon G. T. Smith, to Naval Hospital, Norfolk, Va.

Surgeon M. F. Gates, from the *Atlanta*, two weeks' leave, to Philadelphia Hospital.

Surgeon W. M. Wheeler, from the *Alabama* to Naval Hospital, Newport, R. I.

Asst.-Surgeon J. A. Randall, commissioned June 26.

A. A. Surgeon A. H. Wise, to Naval Hospital, Philadelphia.

Surgeon J. M. Edgar, to the *Rainbow*.

Asst.-Surgeon J. L. Neilson, from the *Iris* to Naval Station, Cavite, P. I.

Asst.-Surgeon A. E. Peck, from Naval Station, Cavite, to the *Iris*.

Surgeon G. A. Lung, to the *Columbia*.

Surgeon C. H. T. Lowndes, to the Naval Hospital, Boston.

A. A. Surgeon P. L. Cocke, resignation accepted, to take effect September 21.

The following assistant surgeons were ordered to report September 30 at the Naval Medical School, Washington, D. C., for special course of instruction: W. S. Hoen, J. P. DeBruler, J. A. Randall, from the Naval Hospital, Norfolk, Va.; A. D. McLain, from the U. S. R. S. *Wabash;* C. C. Grieve, from the Navy Yard, Boston; A. J. Gieger, from Naval Medical Examining Board, Washington, D. C.; R. L. Sutton, from special duty, Baltimore; J. S. Woodward, P. T. Dessez, from Naval Hospital, Washington, D. C.; J. R. Dykes, from the U. S. R. S. *Franklin;* P. S. Rossiter, T. N. Pease, B. H. Dorsey, from Naval Hospital, Newport, R. I.; R. E. Riggs, from Navy Yard, Washington, D. C.; W. B. Smith, from Naval Hospital, Pensacola, Fla.; F. W. S. Dean, C. F. Ely, F. G. Abeken, from New York Hospital; W. W. Verner, H. L. Brown and W. H. Rennie, from Philadelphia Hospital; C. E. Ryder, J. D. Manchester, S. L. Scott, from Naval Hospital, Chelsea, Mass.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Sept. 17, 1903:

Assistant Surgeon-General A. H. Glennan, to proceed to Wilmington, Del., for special temporary duty, on completion of which to rejoin station.

Assistant Surgeon-General G. T. Vaughan, granted leave of absence for fifteen days from Sept. 18, 1903.

Surgeon C. T. Peckham, granted leave of absence for one and one-half months from Sept. 16, 1903.

P. A. Surgeon Joseph B. Greene, granted leave of absence for one day, Sept. 16, 1903.

P. A. Surgeon R. H. von Ezdorf, to proceed to New Orleans, and wire arrival; to proceed to Laredo, Texas, for special duty, September 16.

Asst.-Surgeon T. F. Richardson, relieved from duty at Tampico, Mexico, and directed to rejoin his station at New Orleans, and inspect en route Linares, Monterey and Victoria, Mexico, and Laredo and Eagle Pass, Texas, September 14. Order of September 14 amended so that he will return direct to Laredo, Texas, and inspect service en route to New Orleans.

A. A. Surgeon L. C. Bean, granted leave of absence for four days from September 15.

A. A. Surgeon B. W. Goldsborough, granted three weeks' leave of absence from September 10.

A. A. Surgeon W. H. Marsh, granted leave of absence for three days from Sept. 18, 1903.

A. A. Surgeon F. R. Smyth, granted two weeks' leave of absence from Sept. 10, 1903.

A. A. Surgeon W. S. Walkley, granted leave of absence, September 14 to 18, inclusive.

A. A. Surgeon D. M. Echemendia, granted leave of absence for seven days from Aug. 27, 1903, on account of sickness.

Pharmacist F. S. Goodman, first class, granted leave of absence for five days from Sept. 5, 1903, under provisions of paragraph 210.

Pharmacist S. W. Richardson, first class, relieved from duty at Portland, Me., and directed to report at Bureau for temporary duty.

Pharmacist Charles R. McBride, third class, relieved from duty at Stapleton, N. Y., and directed to proceed to Manila, P. I., and report to P. A. Surgeon V. G. Heiser, chief quarantine officer, for assignment to duty.

Pharmacist C. H. Bierman, third class, directed to report at Bureau for duty.

Pharmacist George I. Van Ness, directed to proceed from McLean, Ill., to Stapleton, N. Y., and report to medical officer in command for duty and assignment to quarters.

BOARDS CONVENED.

Board convened at San Francisco Sept. 25, 1903, for purpose of making physical examination of applicant for position in Revenue Cutter Service. Detail for board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-Surgeon Carl Bemus, recorder.

Board convened at Boston Sept. 15, 1903, for the physical examination of First Lieut. George M. Daniels, Revenue Cutter Service. Detail for the board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. C. Rucker, recorder.

APPOINTMENTS.

Clarence H. Bierman, pharmacist, third class.
George I. Van Ness, Jr., pharmacist, third class.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Sept. 19, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, Aug. 29-Sept. 5, 3 cases; San Francisco, Aug. 30-Sept. 6, 3 cases.
Illinois: Belleville, Aug. 23-Sept. 12, 13 cases; Chicago, Sept. 5-12, 4 cases.
Indiana: South Bend, Sept. 5-12, 1 case.
Louisiana: New Orleans, Sept. 5-12, 1 case, 5 days in city.
Massachusetts: Fall River, Sept. 5-12, 3 cases.
Michigan: Marquette, Aug. 29-Sept. 5, 1 case; Port Huron, Aug. 31-Sept. 16, 2 cases.
Minnesota: Stearns County, Aug. 31-Sept. 7, 3 cases.
Missouri: St. Louis, Sept. 5-12, 2 cases.
New York: Niagara Falls, Sept. 5-12, 1 case.
Pennsylvania: McKeesport, Aug. 31-Sept. 5, 1 case.
Utah: Ogden, Aug. 1-31, 11 cases; Salt Lake City, Aug. 29-Sept. 5, 2 cases.

SMALLPOX—INSULAR.

Philippines: Manila, July 18-Aug. 1, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Brussels, Aug. 22-29, 1 death.
Colombia: Bocas del Toro, Aug. 25-Sept. 1, 2 cases.
France: Paris, Aug. 15-22, 1 death.
Great Britain, Leeds, Aug. 29-Sept. 5, 6 deaths; Liverpool, Aug. 22-29, 7 cases, 1 death; Manchester, Aug. 22-29, 1 case.
India: Calcutta, Aug. 8-15, 6 deaths.
Italy: Rome, May 23-30, 1 death.
Mexico: City of Mexico, Aug. 23-30, 6 cases, 4 deaths; Vera Cruz, Aug. 29-Sept. 5, 2 cases, 1 death.
Russia: Moscow, Aug. 16-22, 1 case; Riga, June 1-30, 13 deaths; St. Petersburg, Aug. 16-29, 18 cases, 1 death; Warsaw, Aug. 8-22, 5 deaths.
Spain: Barcelona, Aug. 1-15, 7 deaths.
Switzerland: Geneva, Aug. 21-28, 1 case.
Turkey: Constantinople, Aug. 23-30, 1 death; Smyrna, Aug. 8-30, 109 deaths.

YELLOW FEVER.

Colombia: Panama, Aug. 31-Sept. 7, 2 cases, 1 death.
Costa Rica: Limon, Aug. 27-Sept. 3, 2 deaths.
Mexico: Monterey, Sept. 13, present; Nuovo Laredo, Sept. 15, 1 death; Tampico, Aug. 22-Sept. 5, 3 deaths; Vera Cruz, Aug. 29-Sept. 5, 50 cases, 19 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Aug. 9-21, 2 deaths.

PLAGUE—INSULAR.

Hawaii: Hilo, Sept. 14, 1 death; Honolulu, Sept. 1, 1 death.
Philippines: Manila, July 18-Aug. 1, 6 cases, 6 deaths.

PLAGUE—FOREIGN.

Africa: Cape Colony, July 19-25, 1 case.
China: Hongkong, July 25-Aug. 1, 10 cases, 6 deaths; Inkow, Sept. 7, present.
Egypt: Alexandria, Aug. 8-14, 8 cases, 6 deaths; Damiette, Aug. 8-14, 2 cases, 2 deaths.
France: Marseilles, Sept. 13, present.
Japan: Yokohama, July 25-Aug. 15, 1 death.
Mauritius: June 5-July 2, 5 cases, 5 deaths.
New Caledonia: Aug. 13, 26 cases, 18 deaths.
Straits Settlements: Singapore, July 18-Aug. 1, 3 deaths.

CHOLERA—INSULAR.

Philippines: Manila, July 18-Aug. 1, 15 cases, 14 deaths; Provinces, July 18-Aug. 1, 2,141 cases, 1,488 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Aug. 8-15, 10 deaths; Madras, Aug. 8-14, 2 deaths.
Straits Settlements: Singapore, July 18-25, 39 deaths.
Turkey: Baalbeck, Aug. 22, present; Damascus, Aug. 22, present; Hama, Aug. 22, present; Tripoli, Aug. 22, present.